FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Allied Mills Net Off But Considered 'Quite Satisfactory'

CHICAGO—Allied Mills, Inc., this week reported that its earnings for the fiscal year ended June 30—while down from a year earlier—were considered "quite satisfactory" in comparison with industry reports and under existing conditions.

Net sales for the year were $105,657,128, compared with $112,817,415 in the previous year. Net earnings declined from $3,011,614 in the fiscal year ended June 30, 1959, to $2,455,465 the past year. This represented a decline from $3.71 to $3.02 per share.

"The past year has been a difficult and unfavorable one for companies

(Turn to ALLIED MILLS, page 117)

On-Farm Mixing Views to Be Aired At Production School

KANSAS CITY—A special discussion feature—a panel discussion of "The Economics of On-Farm Mixing"—has been planned for the 1960 Feed Production School.

The school, covering various major aspects of feed plant operation, will be held Sept. 21-23 at the Hotel Continental in Kansas City.

Because of certain developments in some areas in connection with on-the-farm mixing of feeds, the discussion has been added as a special part of this year's Production School.

Taking part in the panel discussion will be agricultural economists and production experts from industry, college and government.

The discussion will represent the first broad presentation on this subject at a major feed industry event. The topic has been dealt with to some extent at some state feeder or industry conferences recently, but this

(Turn to SCHOOL, page 8)

Broiler Credit Up From June to July, But Below '59 Rate

ATLANTA—Bank loans and trade credit extended by feed manufacturers for broiler production in the South increased from June to July, but the July total for each type of credit was sharply below year-earlier levels, according to a report of data collected from selected banks and cooperating manufacturers by the Federal Reserve Bank of Atlanta.

The Atlanta bank's research department reports that credit volume and broiler placements are running in opposite directions. Broiler placements declined from June to July but were substantially greater than a year earlier.

Manufacturers Report

Selected feed manufacturers within the Sixth Federal Reserve District reported that more broiler production credit was outstanding with both feed dealers and producers, but the gain was larger for producers. Repayments by dealers declined sharply,

(Turn to CREDIT, page 116)

Oct.–Dec. Broiler Prices 15-16c; Eggs At 38c; Turkeys Above Current Level

CHICAGO — Here is the poultry price outlook as seen by the Poultry Survey Committee in its latest report.

● "U.S. farm broiler prices probably will average 15-16¢ for the October-December quarter — about the same as a year earlier. Prices in the first quarter of 1961 are expected to average 16-17¢, about a cent under the year earlier average.

● U.S. farm egg prices during October-December 1960 are expected to average about 38¢ doz., about 6¢ above the comparable 1959 period. January-March 1961 prices probably will average 34¢ and April-June about 31¢.

● "U.S. farm turkey prices are expected to increase about 1 to 2¢ over early September levels as the heavy marketing season progresses. Prices during the major 1961 marketing season will probably average lower than 1960 prices for the same period."

The Poultry Survey Committee is comprised of four top college poultry economists. They are Dr. Ralph L. Baker, Pennsylvania State University; Dr. William R. Henry, North Carolina State College; Dr. Richard L. Kohls, Purdue University, and Dr. Henry E. Larzelere, Michigan State University. Serving in an ex-officio capacity in the work of the committee are several additional economists from industry and the U.S. Department of Agriculture. The committee's work is co-sponsored by American Feed Manufacturers Assn., Na-

(Turn to SURVEY, page 117)

Feed Industry Feels Effects Of Railroad, Elevator Strikes

Just about every phase of the feed industry operating in the region stretching from the Mississippi River to the Atlantic Ocean this week was feeling the shock waves radiated by strikes against the Pennsylvania Railroad and the Grand Trunk Railroad. Adding to the confusion are work stoppages in Buffalo and Chicago grain installations.

If the strikes aren't settled soon, it is quite possible that feed manufacturers and their integrated feeding operations will find themselves in serious trouble because of ingredient shortages, which already have bulled the soybean oil meal and millfeeds markets.

Emergency Measures

Emergency measures for putting more trucks into service were reported to be all set to go, if needed, in Delmarva (see related story on page 8).

Some eastern feed manufacturers reported last week (Feedstuffs, Sept. 3) that they were taking care of immediate transportation needs by switching to other railroads and trucks, but this week it appeared that this change in transportation methods might not be enough to take care of requirements over a long period of time.

Operations hurt the most are those without extensive storage facilities.

In some areas, like the Ohio Valley

(Turn to STRIKES, page 8)

Grain Elevator Strike Stems from Rail Halt

By Special Correspondent

BUFFALO — This city's grain industry was all but paralyzed Sept. 8 by a new strike which stemmed indirectly from the Pennsylvania Railroad work halt. The new strike began at 6 a.m. when 450 grain elevator workers struck against 12 elevators and four flour mills. Another 2,500 workers were idled.

Members of Local 1286, Grain Elevator Employees, an affiliate of the International Longshoremen's Assn. (AFL-CIO) left their jobs in a dispute which they said involved a contract violation by employers.

Representatives of the Grain Elevator Managers Assn., the employers

(Turn to ELEVATORS, page 118)

New Nitrofurans Said Promising for Coccidiosis, Growth

By GEORGE L. GATES
Editor of Feedstuffs

LEXINGTON, KY. — Results of tests with several new (and still experimental) nitrofurans which are reported to show promise as coccidiostats and growth stimulants were included in papers presented at the third National Symposium on Nitrofurans in Agriculture held here Sept. 8-9.

The reports on the new nitrofurans were part of a two-day program which included a score of livestock and poultry research reports by college and industry scientists.

The symposium, with its discussions of the most recent developments in research with the nitrofuran class of drugs, was sponsored by the University of Kentucky College of Agriculture in cooperation with Hess & Clark, division of Vick Chemical Co., Ashland, Ohio. Dr. W. P. Garrigus, associate director of the Kentucky Experiment Station and head of the animal husbandry department, was general chairman.

The new nitrofurans were said to show "great promise" as coccidiostats and growth stimulants, and as a blackhead preventive, in broilers.

Further evidence of the efficacy of

(Turn to NITROFURANS, page 116)

566 Million-Bushel Bean Crop Expected

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — A soybean crop in excess of 566 million bushels is indicated in the September crop report of the U.S. Department of Agriculture.

According to previous comments from top USDA officials, this indicates to them that the carryover of old crop beans will probably be as high as 40 million bushels, making an overall crop potential of better than 600 million.

Other feed grain crop production is only fractionally changed from the

(Turn to BEAN CROP, page 116)

FEEDSTUFFS *Features This Week*

PELLET FINES—Advice on how to avoid excessive fines in pellet operations is given on **page 18.**

EGG CONTRACT—Operation of a contract egg production plan in South Dakota is detailed on **page 28.**

PROTEIN—Compounds which might "pinch-hit" for protein in ruminant rations are reviewed by a college scientist. **Page 34.**

NEW FACILITIES—An Oregon firm, wiped out by fire, is rebuilding a fireproof structure designed for efficiency. **Page 46.**

PROTEINS, FATS, OILS—An industry executive views the current and future situation in proteins, fats and oils on **page 58.**

GRAIN EXPANSION—Research conducted on swine feeds expanded by the grain expansion process is reported on **page 70.**

PELLET ACCEPTANCE—The second in a series of articles on pellet acceptance, this one giving case histories, is presented on **page 78.**

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The regional circulation of this issue is concentrated in the northwestern states

Top of the Hopper

THE NEED FOR A BASIC PUBLIC RELATIONS job on the part of the feed industry has been mentioned by a number of feed men. They have made the comments in reference to current discussions of developments in on-farm mixing of feed. Some of these same men do not feel that proposals in some quarters for more farm mixing represent a major threat if the industry continues to do an efficient job of delivering top-notch nutrition to farms and feedlots. However, they do feel that the industry as a whole may have to do a better job of pointing out its valuable role to some feeders and agricultural thought leaders.

One feed manufacturer, commenting that the same sort of thing was occurring 35 years or so ago, observed that some good feeders could take a pencil and paper and show him how they could make a pretty good feed at a low price. But, he said, with the same pencil and paper, he also could show them where they would be better off if they devoted their capital, labor and management efforts to their basic production job and left the feed manufacturing to the specialized feed industry. Another feed man mentions that farmers could save money, too, by assembling their own farm machinery, but they have found that it pays to leave this to the specialists. He implies that a similar situation exists in feed now, just as it did years ago.

As most persons point out, the whole question boils down to the economics of the thing, but some feed men feel that they should get a better shake when it comes to general comments and reports on the question. For example, they feel that some research reports have not been entirely objective or broad enough in their considerations. At the same time, they feel that some practices within the industry may result in an unfair picture of the industry as a whole. Some observe, too, that perhaps the industry should be paying more attention to ag economists and engineers in colleges as well as to nutritionists, helping to explain the industry role to many such persons who actually may not be nearly as familiar with it as some of the nutritionists.

At any rate, these feed men say, in addition to the basic job of making and distributing feed as efficiently as possible, there is a broad public relations job to be done by all feed men.

Going back to the economics of on-farm mixing, many feed men will be interested in the thorough panel discussion of this subject, as it relates to the feed industry, now planned for the Feed Production School in Kansas City Sept. 21-23.

AND, SPEAKING OF ECONOMICS AGAIN—An industry observer gave a reminder the other day of the broad industry interest in economic research, particularly in these times of rapid change. He said conversations with a good many feed men recently almost always wound up with mention of the need for more economic data and interpretation on which to base feed business plans and programs. This, of course, would apply to such things as capital requirements and problems in the industry and agriculture, the ever-present problem of credit and financing, sales and distribution methods, plant feasibility analyses, etc., as well as such developments as farm mixing.

Recognizing this need, the American Feed Manufacturers Assn. some time ago established a market research department. And more feed firms have their own departments or activities for economic and business analysis and forecasting. Perhaps, also, some current activities will lead to more economic research and analysis on the part of government and ag colleges for industry specifically as well as for agriculture generally.

(Turn to TOP OF THE HOPPER, page 113)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Strikes—elevator, flour mill and railroad—and the arrival of cooler weather pushed their way to the top of the "most-talked-about" list of feed manufacturers in many parts of the country this week. The work stops have had their effects on feed men because they have been confronted by transportation problems and higher ingredient prices because of shortages. Feed men are looking forward to a trend which seems to be working its way toward more than hand-to-mouth feed movement. Coming on now are increases in sales of most types of feeds. The Chicago-based hog-corn ratio slipped to 13 this week—.8 point under the previous week but still 2 points above the comparable week last year. The wholesale feedstuff price index edged up to 73.8 this week compared with 73.3 last week and 75.4 a year earlier. On the other hand, the feed grain index dropped 2.3 points from last week's 65.2. It also was well below 68.8 a year ago. (Feed markets in detail on pages 114-116.)

Northwest

New vitality in egg prices, continued strength in hog prices and the arrival of cooler weather are giving feed manufacturers in this region the idea that their business, if not already bouncing out of the low spot of the year, will soon see substantial improvement.

There are some exceptions among various manufacturers, but the general trend is toward increased sales of beef and dairy cattle feeds, hog feeds, layer and broiler feeds. Turkey feed volume is dwindling, of course, because the heavy turkey marketing season is at hand.

Ingredient price increases, which are turning up in formula feeds, are expected to encourage dealers and feeders to stock up on needs, thereby reducing the volume of hand-to-mouth trading.

Most mills in the Northwest are running five days, but there are indications that before long some manufacturers will be adding a half day or so.

Southwest

Formula feed business still fails to show any improvement and most mills in the area will operate only on a four-day basis. There are occasional instances of five day runs and these are mostly tied to heavy cattle feed sales.

Price lists will be nominally unchanged except the high protein rations which will be slightly up due to advances in soybean oil meal.

Hog feed business is still good and dairy and turkey feed sales also were reported to be good. Some sources report substantial bookings of future cattle feed, while some feed manufacturers have not pushed cattle feed sales for later delivery feeling that the soybean meal market might come under pressure when new crop movement starts.

Northeast

The Pennsylvania Railroad strike, which has affected various parts of this region, continues to hamper operations of some feed mixers. In some instances, mills are using trucks to maintain output and others are having difficulty reaching their consumers.

As a whole in the Buffalo area, the strike has not had "too material" an effect on the feed industry. Switching to alternate railroads, however, has increased costs because of extra handling and packing charges.

Formula feed manufacturers closed out the month of August with sales slightly ahead of a year ago, but the tonnage total was helped by a maximum number of working days in August this year.

Sales in the latest week held about steady with the previous period. Dairy feeds remained the sales leaders. Some dairy farmers in areas needing rain are taking winter feeding measures because hot weather has dried out pastures and meadows.

Egg mashes ranked second in sales followed by turkey growing and broiler feeds.

Eggs held about steady. Broilers inched up in the Delmarva area, but the season for them is on the wane for the rest of the year.

Ingredients held about steady during the week. Corn eased 1-1½¢, but other grains held about steady. Soybean oil meal was quite strong and up $1@2. Meat scraps dropped $2.50 and brewers' grains advanced $1.

The millfeed market could be affected if the Pennsylvania Railroad strike continues. Supplies are likely to tighten and prices will rise. Meanwhile, some good millfeed sales were reported, with middlings tighter than bran.

Running time of formula feed manufacturers averaged 32 hours last week, down from 40 hours in the preceding period.

Central States

The first week of September has really shown no material betterment from that of the last half of the preceding month. As a matter of fact, in some instances there have been some further moderate cutbacks on running time. However, these reductions were not really serious and will not be unless they should be continued well into the month. Compared with the same week last year, sales in most instances have not suffered by comparison to any material extent.

Weather has been of such character as to cause some misgivings about the size of the two fall crops which afford a clue as to a possible change in the demand for commercial mixed feeds, i.e., corn and soybeans. It is becoming the consensus that both of those grains have suffered as the result of scalding hot temperature and little or no moisture. Likewise, pastures have suffered.

For those reasons, a number in the feed trade are anticipating a pickup in the call for formula feeds before the month gets much older.

Southeast

Broiler feed business in the Southeast continues to be reported as being fairly good. Mills are operating to near normal capacity.

Chick placements in most of the southeastern states remain practically unchanged from the previous week. Broiler prices edged downward last week after all Labor Day needs had been fulfilled. A decline of ½¢ lb. occurred in Georgia, making the

(Turn to MARKETS, page 119)

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Moreover, there are many times when buying vitamins strictly on the basis of lowest-cost-per-pound is *false* economy. Cut-rate vitamin premixes are liable to deteriorate rapidly, or separate, leaving you with two alternatives: run the risk of underfortification or use up the savings by adding extra vitamins "to be on the safe side."

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7 New Members Named to Sales Executives Group

CHICAGO — Seven new members have been elected to serve on the executive committee of the sales executives council of American Feed Manufacturers Assn. The announcement was made this week by the council's chairman, Robert E. Miller, director of marketing, The Beacon Milling Co., division of Spencer Kellogg & Sons, Inc., Cayuga, N.Y.

The election took place by mail ballot during August and was conducted among the council's 240 company membership. Six of the new committee members will serve three-year terms and the seventh member is fulfilling an unexpired term of two years.

The three-year term members include: Marshall W. Backus, Cooperative G.L.F. Exchange, Ithaca, N.Y.; Wesley E. Ballmann, Burrus Feed Mills, Ft. Worth, Texas; Paul Cory, Moorman Manufacturing Co., Quincy, Ill.; M. R. Eighmy, Gooch Milling & Elevator Co., Lincoln, Neb.; Earl P. Mitchell, Alabama Flour Mills, Decatur, Ala., and Dale Smith, Western Farmers Assn., Seattle, Wash.

Emmet G. Amdahl, Golden Sun Milling Co., Estherville, Iowa, will fulfill the two-year unexpired term of Herman (Jack) Jensen, president of the same firm.

Backgrounds

Marshall W. Backus is feed sales manager of Cooperative G.L.F. Exchange, and joined the organization in 1935, managing three of their northern country stores. In 1938, he was transferred to the petroleum division, opening three bulk petroleum plants, and in 1946 was transferred into franchised private dealer work as district manager. Prior to his present appointment, Mr. Backus was in area sales management.

Wesley E. Ballmann is co-manager in charge of sales for Burrus Feed Mills and has been with the firm

(Turn to SALES, GROUP, page 116)

R. S. Slayton Heads Honeggers' Sales

FAIRBURY, ILL. — Honeggers' & Co., Inc., has elevated Robert S. Slayton to general sales manager, according to announcement from E. F. Dickey, president.

R. S. Slayton

Mr. Slayton has been associated with Honeggers' since 1955 as turkey feed manager, division manager and since 1958 as assistant general sales manager.

Mr. Slayton was graduated from the University of Illinois in 1941 with a B.S. degree in agriculture, majoring in agriculture education, and he taught vocational agriculture in Fairview and Hillsdale, Ill., for 2½ years. Upon completion of his 2½ year military service, he returned to vocational agriculture, teaching at Avon, Ill., for another two years. Mr. Slayton also served four years as farm advisor in Scott and Mason counties in Illinois.

He then became associated with Bonnett Turkey Hatchery, Havana, Ill., specializing in sales and service work. Early in 1954, Mr. Slayton became operator-manager of the Baker Ranch in Lake Village, Ind.

Mr. Slayton resigned as operator-manager of the ranch in 1955 to join Honeggers', as turkey feed manager. Mr. Slayton was promoted to division sales manager of Honeggers' eastern division early in 1957 and then to assistant general sales manager in March of 1958.

Regulations on Drugs For Cows Announced

WASHINGTON — The Food and Drug Administration has published new regulations to prevent the occurrence in milk of antibiotics and other drugs administered to dairy animals.

Under the regulations, such drugs may not be marketed for treatment of milk producing animals if residues can be found in the milk more than 96 hours after administration of the drug, or if the time of disappearance of the drug from the milk has not been determined.

The new regulations, FDA said, also bring all dosage forms of permitted drugs except products for infusion into the udder under requirements for label statements calling for discarding the milk for 96 hours, or whatever shorter period has been shown to be adequate to assure that the milk is free of the drug. A previous regulation requires similar labeling for certifiable antibiotics for intramammary infusion.

The recent action follows a proposal published last April which would have limited the action to certifiable antibiotics for intra-muscular or intravenous injection. As a result of comments on the proposal, FDA said, coverage of the regulation has been extended to all drugs and all dosage forms (except intramammary infusions) intended for use in animals producing milk for food use. (An earlier story on the certifiable antibiotic part of the new regulations appears on page 82.)

"The new regulation," FDA said, "was made necessary by recent findings that injectable antibiotics and certain other drugs and other dosage forms as well as the intramammary infusion products result in contamination of the milk of the treated animal."

John L. Harvey, deputy commissioner of food and drugs, called the new regulation "a significant step in the elimination of sources of possible contamination of the nation's milk supply."

Persons who will be adversely affected by that portion of new regulations pertaining to certifiable antibiotic drugs may file objections and request a public hearing. Except for any parts which may be stayed by the filing of proper objections, said FDA, the new regulations become effective Nov. 29.

Week's Broiler Egg Set 19% Over 1959

SALISBURY, MD. — The national broiler egg set last week was 19% above the same week of 1959. For 22 reporting states the total number of eggs set was 41,691,000. This figure was 1% above the previous week.

Settings were up in 10 of the 22 states. States for which sizable increases were reported include Maine, California and Georgia. Placements in the 22 states totaled 29,523,000. This was 2% below the previous week but 6% above the corresponding week a year ago. Decreases were reported for 14 states compared with the previous week. States showing appreciable decreases include Arkansas and Virginia.

Broiler prices at the farm averaged 17.22¢ in Delmarva last week compared with 17.26¢ the week before. A year ago the price was 16.15¢.

August of this year was a better month for broiler growers than a year ago. This year's average price for August was 17¢, 3% over the August 1959 price. Feed cost at $4.60 cwt. was 7% less than a year ago. Broiler chick prices, however, had a 30% increase, 13¢ per chick this August compared to 10¢ a year ago.

Better Prices, Increased Demand Predicted at Soybean Convention

MEMPHIS — Better future prices for soybeans based on increasing domestic and world demand for soybeans and soybean products were predicted here by Glenn Pogeler, chairman of the board of the National Soybean Processors Assn., Mason City, Iowa.

Mr. Pogeler took part in a panel discussion on the factors affecting soybean prices during joint meetings of the American Soybean Assn. and the National Soybean Processors Assn. at Hotel Peabody here.

"Soybeans have found an increasing demand in all areas of the world, and it is my belief that the export demand for U.S. soybeans will continue to increase in the future," said Mr. Pogeler.

He said population increases and a rapid betterment in living standards in many parts of the world are also bringing a "spurt in total demand" for U.S. soybean meal and soybean oil.

Mr. Pogeler commented that the depressed price for soybeans during the past year has been due to a large supply of wet corn coupled with the low price of hogs "which resulted in the farmer feeding wet corn and no protein to his hogs."

Mr. Pogeler's statements concurred with predictions of market expansion by Dr. T. A. Hieronymus, University of Illinois agricultural economist (Feedstuffs, Sept. 3), presented at the convention.

Other convention speakers told those attending about prospects in various areas of the country for soybean growing as compared with other crops.

"The soybean is here to stay in the cotton country of the mid-South," a large soybean and cotton grower told the American Soybean Assn.

In most Delta counties where cotton once was king the soybean acreage is now about the same as the cotton acreage, said Harris H. Barnes, Jr., general farm manager of King & Anderson, Inc., Clarksdale, Miss. Mid-South states now produce 20% of the total national soybean crop and last year the average yield per acre here was close to the national average.

Mr. Barnes mentioned as factors that may make for further increased soybean acreage in southern states the use of early maturing varieties, continued acreage restrictions on cotton and the planting of soybeans in strip-planted cotton, which was allowed for the first time this year by the U.S. Department of Agriculture.

"We have set our goals at an average 35 to 40 bu. per acre production (last year 23.2 bushels per acre). With the progress that has been made in the research field, along with the cultural practices and the improved attitudes of the cotton farmer toward soybeans as a good revenue crop, the South can be definitely counted on for producing its share of a potential 1 billion bushel crop in the U.S.," almost double last year's crop, said Mr. Barnes.

Soybeans will probably continue to occupy about the same total Corn

(Turn to PRICES, page 117)

Nation's Egg Prices: Both Up and Down

NEW YORK—An irregular pattern of prices — some up, some down — dominated the nation's egg markets during the weekly period ended Sept. 7.

The U.S. Department of Agriculture reported that prices fluctuated within a wide range. At some points, values were 2-5¢ higher, while at others they were as much as 5-6½¢ below prices of a week earlier.

West coast trading was fairly active. Prices were unchanged on large at San Francisco but 2¢ higher on mediums. In Midwest, the price differential between large and mediums narrowed as some price resistance was noted on large. The price for large ranged from unchanged to 3¢ lower. Mediums and smalls advanced 1-4¢.

Northeastern markets were sensitive to supply and demand. At New York, large whites were ½-1¢ lower, while mediums ranged 2¢ higher. At Southeastern points, values declined 2-4¢ on large but advanced 3-5¢ on mediums and smalls.

Broilers, Turkeys

Broiler and fryer prices were mostly steady to a bit on the weak side. Following a decline of half a cent early in the week in the South, a mostly 15½¢ farm price prevailed. In Delmarva, live market prices held relatively steady around an average of 17¢ lb.

Trading in frozen ready-to-cook turkey was generally quiet following the Labor Day weekend. In terminal market trading, a continued brisk demand for toms over 24 lb. depleted most supplies, and a tight buying situation prevailed.

HEADS PUBLIC RELATIONS

DARDANELLE, ARK.—Ken Parker, state editor of the Arkansas Gazette since 1953, has been named director of public relations for Arkansas Valley Industries, Inc., here. The firm has large-scale poultry and feed integrated operations in this region.

Research Council To Meet Oct. 12

WASHINGTON — The annual meeting of the Animal Nutrition Research Council is scheduled for Wednesday, Oct. 12, at the Shoreham Hotel in Washington, D.C.

The meeting will be held in connection with the annual meeting of the Association of American Feed Control Officials, set for Oct. 12-13.

The ANRC is a group of college, industry and government researchers who meet annually to hear technical discussions of various aspects of nutrition research work.

Pet Food Institute Selects Chairman

By DON E. ROGERS
Feedstuffs Staff

CHICAGO — George Laimbeer, General Foods Corp., was elected chairman of the Pet Food Institute at the third annual convention Sept. 8-9 at the Drake Hotel, succeeding Joseph V. Getlin.

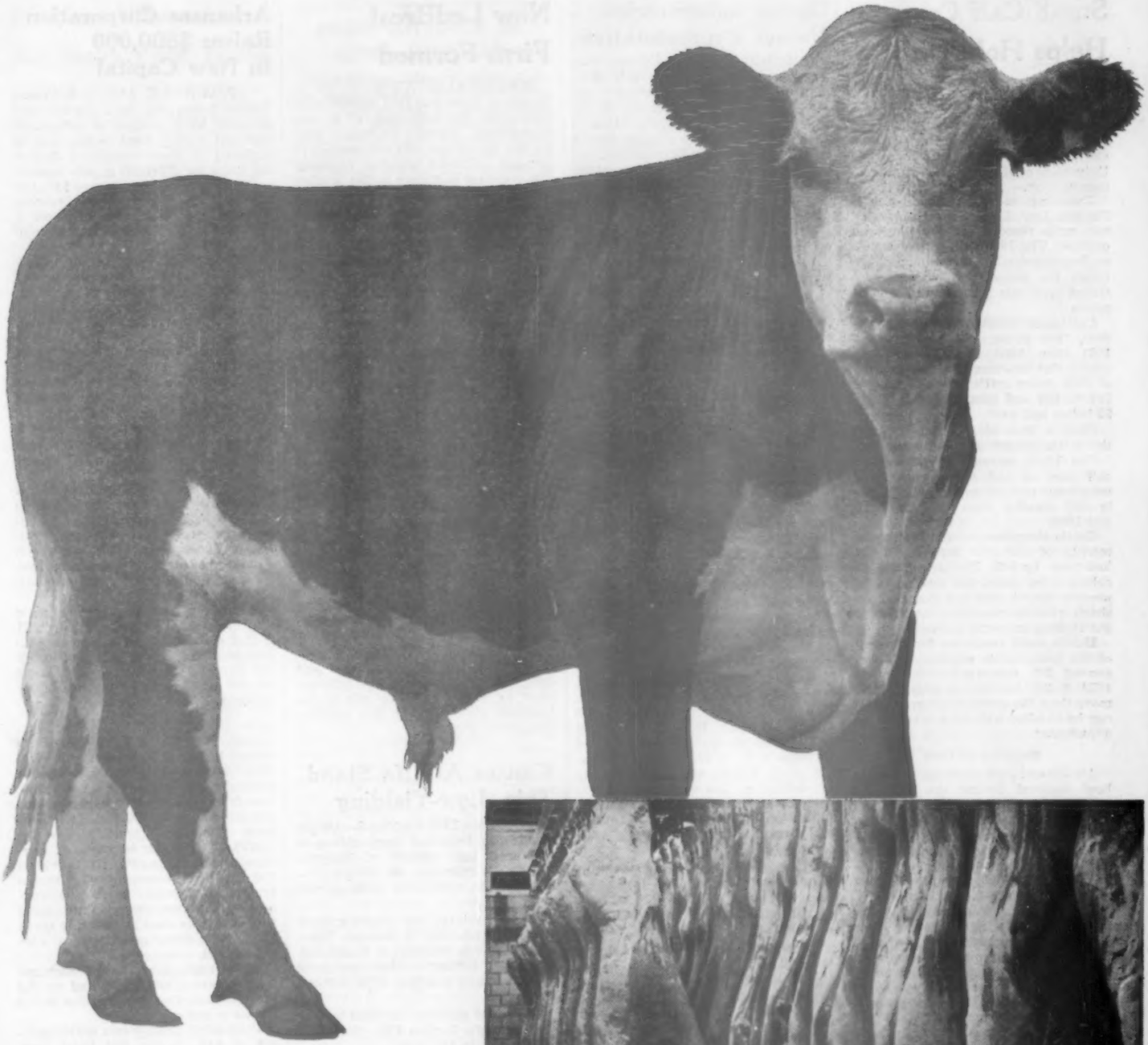
Registration at the meeting totaled 225, which was considerably larger than a year ago.

Other officers elected were: Norman Berkness, Carnation Co., vice chairman, and R. Parker Long, Quaker Oats Co., secretary-treasurer.

The 1960-61 executive committee will consist of the following members: Frank Fretwell, Spartan Grain & Mill Co.; Clyde Kassens, Perk Foods Co.; D. B. Lewis, Lewis Food Co.; J. P. McFarland, General Mills, Inc.; Arnold P. Mork, North Atlantic Packing Co., and Richard J. Staib, Corn Products Sales Co.

Highlight of the convention was a presentation entitled, "Evaluating the Pet Food Market," by Paul E. Traum, vice president, A. C. Nielsen Co., showing consistent gains in both dog and cat foods in the past three years, with a favorable outlook for the industry during the '60s.

(More complete details of the meeting will appear in Feedstuffs later.)



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Small Calf Crop Helps Hold Up Fall Beef Prices

URBANA, ILL.—Cattle feeders can expect less price decline this fall than seemed likely earlier this year, a University of Illinois agricultural economist says.

Speaking at the annual Cattle Feeders Day, L. H. Simerl presented two main reasons for the improved outlook: The 1960 calf crop is smaller than expected, and consumers have taken the larger number of cattle slaughtered this year at fairly good prices.

Cattlemen should not expect, however, that prices will be higher in 1961 than 1960, Mr. Simerl cautioned. For the remaining four months of 1960, choice cattle may hold around $25 to $26 and average about $1 to $2 below last year.

Here is how Mr. Simerl sizes up the cattle picture at this time:

The 1½% increase in this year's calf crop is just about enough to match our population increase. But it is still smaller than in 1954, 1955 and 1956.

Cattle slaughter for the first seven months of the year topped that of last year by 9%. The proportion of calves being saved for feeding is no greater than it was last year. So the sharp rise in slaughter has slowed the buildup in cattle numbers.

If this trend continues for the rest of the year, cattle numbers will rise around 3% compared with 5% in 1959. A 3% increase is only a little more than the population growth and can be handled without a severe price adjustment.

Shortage of Pork

An unusual pork shortage will boost beef demand during the next six months. The 16% smaller spring pig crop is the smallest crop in relation to population since the drouth years of the 1930's. Consumers have a record supply of money to spend this fall, and they will lay out a good share of it for beef, says Mr. Simerl.

The biggest problem facing cattle feeders for the next two to four years is writing down of inventory values. Prices are almost sure to decline because we are raising more cattle than we are killing. When slaughter matches or exceeds production, prices will have to decline to move the larger volume of beef.

If a cattle feeder is to stay in busi-

(Turn to CALF CROP, page 118)

Memphis Oilseed Meal Futures Irregular

MEMPHIS, TENN.—Prices of oilseed meal futures were irregular on the Memphis Board of Trade during the past week, compared with a week earlier.

Soybean oil meal was strong part of the period on the basis of good cash business, particularly the immediate market. Prices eased later.

Meanwhile, soybean oil futures climbed Sept. 6 in sympathy with soybeans, which recorded a good advance. The nearby September soybean oil meal contract made the best gain.

Cash cottonseed oil meal was relatively quiet and a loss in futures was reflected by that fact. Little seed has been received by mills in the Memphis territory and many were reported holding out for volume offerings, particularly on forward months, until after the September government cotton estimate.

Unrestricted soybean oil meal closed Sept. 6 25¢-$3 ton higher than on Aug. 30; eastern trunk line soybean oil meal 50¢-$1.50 higher, and bulk solvent cottonseed oil meal 25-75¢ lower.

Trading volume for the week amounted to 1,800 tons of unrestricted soybean oil meal.

Dawes Laboratories Names Representative

CHICAGO — Dawe's Laboratories, Inc., here has named Richard D. Hendershott as territory manager, according to Z. Z. Dworking, Dawe's western region sales manager.

R. D. Hendershott

Mr. Hendershott will represent the company in the sale of its feed fortification products in northern California and Nevada. He is a graduate of the University of California, Davis, with a degree in animal husbandry. Mr. Hendershott, formerly associated with Vitren Corp., has six years experience in fortification product sales to the feed industry.

Minnesota Planning Cattle Field Day

ST. PAUL — The eighth annual Beef Cattle-Grassland Field Day of the University of Minnesota has been set for Sept. 22 at the Rosemount Soils Farm. The event will include several reports on research on drylot feeding of cattle.

Better rations for higher beef profits will be explained to visitors. Key questions on beef feeding are to be discussed.

Dr. O. E. Kolari, livestock scientist, will report on the amount of hay to feed fattening steers and heifers on silage and corn. He will report on trials in which hay has been limited to none, 2 lb., 4 lb. and 5 lb. daily. Dr. J. C. Meiske will report results of wintering low-grade calves on early-cut and medium-cut silage and alfalfa-brome silage. Dr. W. J. Aunan will discuss research on energy levels for steers.

Other topics will include performance on fertilized vs. unfertilized pastures and effect of feed additives such as stilbestrol, antibiotics and vitamin A and energy levels for steers.

Reporting on the vitamin A problem will be Dr. A. L. Neumann of the University of Illinois.

A special demonstration on the kind of cattle to feed this year will be conducted by L. S. Doran, manager of stocker and feeder operations for Central Livestock Order Buying Co., South St. Paul. Some tips on how to feed different grades will be listed by R. E. Jacobs, extension livestock specialist from the University of Minnesota.

The event is scheduled to get underway at 10 a.m. and last to 3 p.m. A barbecued beef lunch will be served.

New LedBrest Firm Formed

SPRINGDALE, ARK. — C. L. George & Sons and Gail Brown have announced the formation of a new corporation, Brown's LedBrest, Inc., for the production and distribution of Brown's LedBrest breeding cockerel. The cockerel is known in the poultry industry as "Brown's LedBrest."

Mr. Brown, president of the new corporation, developed the cockerel over a period of several years. Two years ago the male bird was introduced to the trade.

Its distribution in the U.S. has principally been in the Midwest, South and Southeast. However, sales have been made in practically every section of the U.S., Mr. Brown said, and many cockerels have been shipped in the export trade to foreign countries.

C. L. George & Sons, a large producer of broilers in the northwest Arkansas area, has made extensive use of the cockerel in the production of broiler chicks. The firm has now joined with Mr. Brown in organizing Brown's LedBrest, Inc., for the expansion of research facilities and distribution of the "LedBrest Male."

The new corporation has acquired all pedigree foundation and breeder flocks along with other assets of the LedBrest division necessary for production and distribution of the male line from Jeff D. Brown & Co., Inc.

Jeff D. Brown & Co., Inc., will continue its hatchery and broiler feed operation under the same management as in the past. The sale of the LedBrest division in no way involves this corporation.

Kansas Alfalfa Stand Thin, Low-Yielding

GARDEN CITY, KANSAS—Alfalfa stands are thin and low-yielding in this area, said officials of National Alfalfa Dehydrating & Milling Co following an area sales meeting held here.

Lack of rainfall has slowed growth so that production is running light. Where fourth cutting is completed, crews are having to wait for more growth before starting fifth cutting, they said.

The sales meeting included a tour of National's Garden City plant and a field trip in the area.

Attending the meeting were: John Bressler, Lamar, Colo.; Charles Williams and Leigh Raetz, Cozad, Neb.; Robert Colvin, Big Bend, Colo.; Ray Copeland, Plainview, Texas; Lee Letherman and Bus Gerecke, Garden City; Harold Swift and James L. Rehyer, Manzanola, Colo., and W. A. Donnelly, R. A. McFadden and John Clay, all of Kansas City.

Arkansas Corporation Raises $500,000 In New Capital

DARDANELLE, ARK. — Arkansas Valley Industries, Inc., parent corporation for a number of integrated feed and poultry firms in this area, is reported to have completed financing plans for $500,000 in new capital.

The firm plans to sell some $400,000 worth of 6% convertible subordinate sinking fund debentures due June 1, 1970 and some 30,000 shares of capital stock.

Appointed manager of an underwriting group to handle the financing was A. G. Edwards & Sons, Little Rock. A number of other companies will participate in the fundraising.

Arkansas Valley Industries operates two feed mills, two hatcheries, a poultry processing plant, a number of feed stores and poultry units in the Arkansas River valley region.

The firm was incorporated Dec. 1, 1958 to "acquire other companies and thus creating an integrated poultry business."

Typical of similar growing firms across the nation, it manufactures and sells feed, produces broiler hatching eggs, grows and processes broilers, produces turkeys and carries on a number of other related enterprises.

In addition, it feeds a limited number of livestock.

Records of the corporation show that in its fiscal year ended March 31 it had contract farmer-growers who produced more than 10,500,000 broilers in their own houses and some 700,000 broilers in houses leased or sub-leased from the company.

Opened Second Mill

Last Feb. 1, the firm opened its second feed mill. It was built at Waldron, Ark., by the Scott County Industrial Development Corp., and leased to AVI. Yearly capacity was increased from 75,000 tons to 150,000 tons.

AVI has a major hatchery at Dardanelle with a capacity of almost 950,000 eggs. It also leases another hatchery with a capacity of 100,000 eggs.

The two facilities produce some 240,000 chicks weekly, which is about 75% of the firm's needs to meet contracts with growers.

The remaining chicks are acquired from contract hatcheries and on the open market. One firm supplies 50,000 chicks a week.

Processing poultry is a major project of AVI. In the last fiscal year, the corporation processed some 43 million pounds of broilers. The AVI processing plant at nearby Russell-

(Turn to CORPORATION, page 118)

Chas. Pfizer & Co. Names 2 Managers

NEW YORK—Two executive promotions in the midwestern and southwestern sales regions have been announced by the agricultural division of Chas. Pfizer & Co., Inc.

Karl D. Chandler, district manager in Texas, has been named manager of the southwestern region, with headquarters in Dallas.

Joe Baltes, district manager in the dairyland areas of the midwestern region, has been promoted to assistant regional manager, with headquarters at the company's regional office in Chicago.

Mr. Chandler joined the Pfizer Agricultural Division as a sales representative in 1956 and was promoted to district manager in 1959. Prior to joining Pfizer, Mr. Chandler was sales promotion and advertising manager for Burrus Feed Mills, Ft. Worth.

Mr. Baltes joined Pfizer in 1955 as an agricultural representative. He was promoted to district manager in 1956. In his new position, he will be primarily concerned with the field sales activity of Pfizer's agricultural line of animal health and feed supplement products throughout the Corn Belt.

ILLINOIS FEEDERS DAY—Don Walker, left, University of Illinois livestock specialist, discusses the feeding program of these Herefords with Don Conroy, Monmouth, and Willard Wilson, right, Muscatine, Iowa. Mr. Conroy and Mr. Wilson represented Kent Feeds at the annual Cattle Feeders Day at Urbana. Some 1,200 persons attended the event. (A story on research reports presented at the conference appears on page 10.)

Hubbard Buys Land At Sioux City, Iowa

SIOUX CITY, IOWA—Purchase of 10 acres of land here by Hubbard Milling Co., Mankato, Minn., has been announced by Ogden P. Confer, president of the company. The site is to be used for future expansion, Mr. Confer said.

The property is located just south of here off U.S. Highway 75 and immediately adjacent to the first interchange on the new interstate highway through the city. The property also has frontage on the Chicago & North Western Railroad and the Missouri River.

"We have been considering several sites for expansion of our feed division," Mr. Confer stated. "We have acquired the Sioux City property because our studies indicate this is the center of a tremendous livestock producing area with a very active livestock market and an important center for feed manufacturing.

"A Sioux City sales division has been established and plans for construction on the property will be developed. We feel the site we have purchased is ideally located with highway, railroad and river transportation."

Hubbard Milling Co. recently purchased the feed division of Archer-Daniels-Midland Co., Minneapolis, and took over all Archer feed business Sept. 1. Hubbard plans to continue to manufacture Archer Booster Feeds made with Archer formulas and will continue to service existing Archer Booster dealers.

"Acquisition of the Archer feed division expands our feed operations and makes the Sioux City site more important in our thinking than before," said Quentin J. Marsh, Hubbard vice president and manager of the Hubbard Feed Division.

Initial contact between Hubbard and the Sioux City Industrial Development Council was made more than a year ago. Recently the firm exercised its option and secured title to the property.

Hubbard has had feed plants at Mankato; Marion, Ind., and Cedar Rapids, Iowa. Purchase of the Archer feed division gave Hubbard a second plant in Mankato plus a plant at Springfield, Ill., and warehousing facilities in Omaha, Neb.

Turkey Conferences Announced for Iowa

AMES, IOWA—Reports on new developments in turkey nutrition and control of respiratory diseases will be presented to Iowa turkey producers at four district conferences in September and October, it was announced by Richard Carter, Iowa State University poultryman.

The series of meetings is sponsored by Iowa State University extension service and the Iowa Turkey Federation.

Sept. 14 at 7 p.m. southeastern Iowa producers will attend a meeting at the YMCA in Washington. The south central Iowa producers will attend a 7 p.m. meeting Sept. 27 at the American Legion Hall in Leon. The Sept. 28 meeting for the northwestern Iowa turkey producers will be at 7 p.m. at the Cobblestone Inn at Storm Lake. An October meeting will be held at Club Iowa at Charles City for northeastern Iowa producers.

S. L. Balloun, poultry researcher from Iowa State University, will report on the results of recent nutrition studies. Programs to control respiratory diseases will be discussed by C. D. Lee, extension veterinarian of Iowa State University, at three of the conferences and by O. L. Thompson of Dr. Salsbury's Laboratories at the Charles City meeting.

South central turkey producers will hear a discussion on the question of supporting a turkey processing plant in their area.

HIGH INTEREST IN AFMA SEMINAR

CHICAGO — Advance interest in the second annual Feed Marketing Seminar to be held at the Morrison Hotel here Sept. 21-22 is running high judging from heavy pre-registration, according to the American Feed Manufacturers Assn. Sales Executives Council, sponsor of the event.

It is reported that those who wish to pre-register must have that information in the association office not later than Sept. 16. It is also possible to register upon arrival at the meeting, according to AFMA. Registration fee is $15 per person.

As announced previously, the program will provide a close look at such things as sales and credit, providing views of the future as well as current important developments.

CCA Lets Contract For Colorado Mill

CHERAW, COLO.—Consumers Cooperative Assn., Kansas City, has announced the awarding of contracts for a feed mill to be built here. Excavation was scheduled to begin this week, according to CCA.

The mill will have a capacity of 20,000 tons of finished feed annually and will serve farmer cooperatives throughout southern Colorado, according to Bruce H. McCully, general manager of the regional cooperative.

Almost an exact duplicate of a mill the cooperative has just completed at Fremont, Neb., the Cheraw plant will be of slip-form concrete construction, about 120 ft. high. The unit will include Co-op Big Chief steel warehouses which the cooperative manufactures at Hutchinson, Kansas. These will have capacity for 180 tons of bagged finished feed, 100 tons of bulk finished feed and 60 tons of bagged feed ingredients for use in the manufacturing.

The mill will be built by W. A. Klinger Construction Co., Sioux City, Iowa. Completion is scheduled for about April 1.

Mr. McCully pointed out that this will bring to 130,000 annual tons the feed-manufacturing capacity the cooperative has in its own mills. Besides Fremont, it now has mills at Muncie, Kansas; Ida Grove, Iowa, and Enid, Okla.

Territory Change Made By Dr. Salsbury's Labs

CHARLES CITY, IOWA—Dr. Hugh M. Lightbody, Dalton, Ga., territory manager for Dr. Salsbury's Laboratories in northwestern Georgia, has been assigned additional territory, according to an announcement from the Charles City, Iowa, company. Dr. Lightbody is servicing the eastern Tennessee area formerly covered by Cecil E. Hutson of Chattanooga, Tenn. Mr. Hutson recently retired from the firm because of ill health. A veterinarian and former instructor in the company's poultry short course for 9 years, Dr. Lightbody has been a territory manager since 1948. He is a graduate of Iowa State University.

Petition for Hygromycin In Chicken Feed Filed

WASHINGTON — A petition has been filed with the Food and Drug Administration asking a food additive regulation providing for use of hygromycin in chicken feed as an anthelmintic.

FDA announced in the Federal Register that Elanco Products Co., division of Eli Lilly & Co., Indianapolis, has proposed issuance of a regulation to provide for the use of 4,000 units (0.004 gm.) per pound hygromycin B in chicken feed.

E. E. Reynolds | L. H. Higgins | E. P. Kovats | F. K. Dalrymple

McMillen Announces Major Appointments

FORT WAYNE, IND.—Four major appointments in the sales organization of McMillen Feed Mills, a division of Central Soya Co., have been announced by Dale W. McMillen, Jr., Central Soya president.

E. E. Reynolds, director of feed sales, has been appointed director of marketing for McMillen Feed Mills and will report directly to the president.

L. H. Higgins has been named general sales manager and will be responsible, under the director of marketing, for guiding and supervising all field sales activities.

E. P. Kovats will become manager of dairy feeds. In his new position, he will be responsible to the general sales manager for the development and implementation of the company's program for the sales and distribution of all Master Mix dairy feeds.

Frank K. Dalrymple has been named manager of commercial accounts and will be responsible to the director of marketing.

In announcing the changes, Mr. McMillen said this action "will strengthen our sales organization and enable it to better meet the changing conditions of the feed industry."

Long Service

The four men bring to their new positions the background of a long period of service with McMillen Feed Mills.

Mr. Reynolds, who was director of feed sales prior to his new appointment, joined the company in 1942 and has held a number of positions including director of market research, assistant to the director of sales, manager of marketing, and general sales manager.

Mr. Higgins joined the company in 1943 and served, successively, as territory manager, Fort Wayne staff assistant, Indiana district manager and eastern division sales manager prior to this appointment.

Mr. Kovats joined McMillen Feed Mills in 1944 and has been territory manager, district sales manager, manager of retail stores and western division sales manager.

Mr. Dalrymple was named an assistant territory manager in 1946. He has since served as assistant district manager, district manager and southern division sales manager.

Galvin Estimates Indicate Larger Crops

By F. C. BISSON
Special Correspondent

CHICAGO—When the Sept. 1 private crop estimate by C. M. Galvin came out, it added rather materially to the prospect for feed grains as compared with what was shown by the U. S. Department of Agriculture a month previous.

His estimate of 4,154,072,000 bu. for corn is an increase of 1,196,104 tons, while the one on oats—1,252,916,000 bu.—calls for an increase of 1,377,584 tons. The over-all increase on the two main feed grains adds up to the rather imposing total of 2,573,688 tons.

Soybean Estimate Up, Too

Mr. Galvin hoisted his soybean crop estimate, too, raising it to 562,014,000 bu. estimated by the government a month ago, which falls short only 18 million bushels of equalling the all-time high record of 580 million bushels harvested two years ago.

Translating the 14,081,000 more bushels of soybeans called for by this private estimate as compared with the official one of 30 days back into terms of potential soybean meal, Mr Galvin's figure, if realized, would mean about 330,000 tons of additional bean meal or almost equal to half of an average month's production of this high protein feed.

"My information," said Mr. Galvin, "indicates the corn crop is still a week to 10 days late with recent moisture beneficial." He set the condition of the growing corn crop at 80% of normal, which is lower than the 10-year average of about 83%.

"Conditions," said Mr. Galvin, "varied more widely than normal, due to the late seeding in some areas and the absence of moisture in others. There were reductions in production

(Turn to GALVIN, page 118)

TABLE 1. Corn Production Estimate
(Final, 000's omitted)

State	Galvin 9/1/60	Government 8/1/60	Government Final 1959	10-Year average
Pa.	78,878	71,115	78,873	65,588
Ohio	249,856	242,048	250,952	196,896
Ind.	350,656	345,177	336,360	253,895
Ill.	652,176	652,176	673,350	511,523
Mich.	121,423	114,550	125,571	85,949
Wis.	141,066	143,832	179,790	142,251
Minn.	281,607	307,803	334,378	271,708
Iowa	737,006	737,006	840,346	564,790
Mo.	253,032	238,334	257,345	154,201
S. D.	101,250	109,340	79,775	105,923
Neb.	333,183	333,183	350,906	209,117
Kansas	82,614	76,713	81,630	55,183
N. C.	88,228	88,228	85,914	66,983
Georgia	74,844	82,863	81,909	58,581
Ky.	84,850	79,759	85,775	74,022
Tenn.	69,784	63,440	67,635	54,703
Ala.	64,380	60,088	62,580	51,435
Total U. S.	4,154,672	4,111,954	4,361,170	3,270,642

TABLE 2. Oat Production Estimate
(Final, 000's omitted)

State	Galvin 9/1/60	Government 8/1/60	Government Final 1959	10-Year average
N. Y.	29,044	27,948	32,886	28,830
Pa.	29,988	29,274	32,384	28,897
Ohio	65,835	62,700	52,256	47,836
Ind.	47,340	43,396	32,175	49,139
Ill.	102,492	96,798	89,320	137,341
Mich.	40,333	44,245	38,540	47,686
Wis.	122,564	113,136	128,100	134,134
Minn.	207,220	199,250	176,673	186,768
Iowa	187,726	171,402	186,490	213,827
N. D.	78,318	68,013	48,528	52,980
S. D.	117,734	106,782	40,385	94,171
Neb.	43,080	38,772	29,326	47,834
Texas	27,625	28,730	26,473	28,388
Total U. S.	1,252,916	1,166,617	1,073,982	1,302,996

TABLE 3. Soybean Production Estimate
(Final, 000's omitted)

State	Galvin 9/1/60	Government 8/1/60	Government Final 1959	10-Year average
Ohio	42,120	40,560	38,272	26,686
Ind.	65,367	62,946	60,112	44,327
Ill.	132,975	128,050	125,610	103,099
Mich.	5,736	5,497	5,400	3,164
Minn.	37,422	37,422	41,647	34,660
Iowa	61,488	65,050	63,441	48,770
Mo.	57,598	56,373	52,210	31,870
Kansas	11,462	10,420	9,114	4,756
Md.	5,520	4,920	4,202	2,480
Va.	6,100	6,100	5,966	3,682
N. C.	12,336	11,822	9,592	6,114
S. C.	8,118	7,657	5,920	2,307
Tenn.	7,896	7,728	7,132	3,934
Miss.	17,499	17,499	20,769	8,540
Ark.	57,040	54,660	56,791	19,581
Total U. S.	562,014	547,933	537,995	361,270

Strike Slows Ohio Valley Business

By Special Correspondent

CINCINNATI — Expectations of autumn bringing more normal feed business activities to the Ohio Valley have been rudely shattered by the Pennsylvania Railroad strike.

While some manufacturers had anticipated the strike and had placed substantially larger orders with their ingredient suppliers during late August, it was indicated this week that many feed manufacturers — along with producers of hundreds of other commodities—had believed the labor difficulties would be settled without a strike, as had been the case many times previously in the 114-year history of the Pennsylvania Railroad.

A survey this week indicated that Cooperative Mills, Inc., has been hardest hit by the strike. This plant, which is serviced only by the Pennsylvania, receives and ships out about 130 carloads monthly of ingredients and finished products.

Nearby suppliers are now hauling in materials and supplies by truck, and considerable tonnages of mixed feeds also are being transported by trucks to retailers within a radius of 100 miles or more but, on the whole, the plant operations are being severely handicapped.

Other local manufacturers, while not yet experiencing such extensive difficulties, are unanimous in declaring that, if the strike continues another week or so, their operations will have to be curtailed considerably.

Naturally, the strike has resulted in a buying rush by area farmers, although it is believed that the strike will not create too much over-all inconvenience — unless other railroads serving Cincinnati also are affected by strikes in the near future.

Standard's Buffalo Operations Closed

BUFFALO—Standard Milling Co. closed its operations here Sept. 9 and expect to stay closed "until strike situations clear up," A. C. Kapsiak, plant manager, said. Standard gave up after trying some complex innovations to maintain supplies and shipments.

A week ago, Standard had a storage problem. It shut down Sept. 2, but started up again Sept. 7, using trucks to keep supplies up and storage volume down. Standard's 5 million-bushel elevator here is on the Erie Railroad, but another Buffalo mill is on the struck Pennsylvania Railroad.

Trucking was cut off Sept. 8 when the striking grain elevator employees closed down the elevator. The mill, which is not being picketed, still had a truck connection to other railroads for flour deliveries.

A last-ditch innovation kept supplies coming Sept. 9. Grain, shipped via other railroads from Duluth, was delivered to "another concern," then trucked to the mill and put into Standard's production line, "an expensive proposition which we do not plan to continue," Mr. Kapsiak said.

Irvin Marcus, Head Of Colby Milling, Dies

COLBY, WIS.—Irvin Marcus, 54, president of Colby Milling Co., died of a heart attaack Sept. 8. Mr. Marcus had been ill with a severe cold for two days.

Mr. Marcus had been in the milling business for the past 30 years and had been president of Colby Milling for the past 15 years. Only recently, a new mill was completed at Abbotsford, Wis.

Funeral services will be conducted Sept. 12 at Wausau, Wis. Interment also will be at Wausau.

STRIKES

(Continued from page 1)

(see story on page 8), feed manufacturers had stockpiled ingredients to prepare for the expected rail strikes, but the more optimistic ones had hoped the labor difficulties would be settled within a short time and possibly even without a strike. Manufacturers who have enough ingredients to last a while aren't in the clear entirely because many of them can't find adequate carriers to ship finished feeds.

Demand Up

Demand for formula feed from feeders has picked up considerably in areas affected by strikes because they want to get their stocks renewed before the possibility of sharp production curtailments arrives.

Chicago observers report that railroad, grain handler and longshoremen strikes (Feedstuffs, Sept. 3) have curtailed receipts of grain entering the city. Instead of reaching Chicago, most of the grain intended for delivery in the city is being held back in country elevators.

This same strike trouble has spurred buying of soybean oil meal. Shipment of meal to feed manufacturers has been impaired.

Work stoppages in Buffalo grain elevators and flour mills (see accompanying story) have made it necessary for eastern feed manufacturers to look to the Midwest for millfeeds —but these efforts are sometimes in vain because of the transportation tieup.

Feeds: Average Bulk Prices and Index of Weighted Prices*
(Dollars Per Ton)

	Sept. 6, 1960	Aug. 30, 1960	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	63.60	62.25	+1.35
Cottonseed meal	59.45	60.05	— .60
Linseed meal	62.75	63.00	— .25
Copra cake or meal	62.25	62.25	...
Peanut meal	55.50	51.00	+4.50
Index	81.3	80.3	+1.0
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	70.00	71.30	—1.30
Tankage	68.90	69.60	— .70
Fish meal	88.50	87.75	+ .75
Index	63.8	64.4	— .6
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	44.00	44.00	...
Dist. dried grains	55.60	55.60	...
Brewers dried grains	43.45	41.95	+1.50
Index	71.6	71.4	+ .2
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	34.80	35.20	— .40
Midds. and shorts	35.60	35.50	+ .10
Index	63.7	63.9	— .2
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	41.55	41.95	— .40
Rice bran	29.00	28.50	+ .50
Index	63.5	63.9	— .4
ALFALFA MEAL			
Prices at prin. mkts.	47.10	46.60	+ .50
Index	90.7	89.7	+1.0
MOLASSES, FEEDING			
Prices at prin. mkts.	22.78	22.63	+ .15
Index	67.8	67.3	+ .5
ALL FEEDSTUFFS			
Index	73.8	73.3	+ .5
FEED GRAINS			
Prices at prin. mkts.:			
Corn	39.70	40.90	—1.20
Oats	42.90	42.60	+ .30
Barley	39.80	39.60	+ .20
Grain sorghums	35.80	37.00	—1.20
Index	62.9	65.2	—2.3

*Base period of index is 1947-49.
Source: USDA.

Poultry Plant Opens

BERLIN, MD. — The Atlas Poultry Corp. has started processing poultry in its newly equipped, modern plant. Principal owners are Benard Bogage, Herbert Calhoun and Paul Schumacher.

This new plant is constructed of concrete and block, completely tiled on the inside.

Transport Bottleneck 'Rough' on Delmarva Feed, Broiler Trades

By Special Correspondent

SALISBURY, MD.—Delmarva feed manufacturers and broiler growers this week showed concern about the effects of the Pennsylvania Railroad strike.

"It's going to be rough," said Jack Harrison, ingredient buyer for the A. W. Perdue & Son Co., one of the largest broiler-producing firms.

Mr. Harrison said the Perdue feed mill receives 20-25 carloads of feed ingredients each week from midwestern states. "It will take 40 or 50 motor trucks weekly hauling 20 tons each to keep the Perdue feed mill running," he said. "Storage facilities are large enough for only a week's supply."

Corn gluten meal comes from Ohio, Illinois, Indiana and other midwestern states.

The firm had anticipated the strike and had stored as much grain as it could, Mr. Harrison reported.

Corn is now arriving here by truck from North Carolina. This is normal movement of corn at this time of year, but the rail shortage could possibly take these trucks out of corn hauling service and put them to other use.

"If trucks are pressed into service to supply the mill," Mr. Harrison said, "it is likely that the freight rates will be greatly increased. There are few, if any, trucks going to the Midwest. They would have to go there empty and haul only one way.

"Then, there is another complication. Sources of soybean oil meal and corn gluten meal do not have facilities for loading trucks with bulk ingredients. The meal must be bagged. This also increases the cost and causes a labor problem."

Benjamin P. Quillin, Salisbury Milling Co., said, "The strike can hurt us badly. The shortage of corn gluten meal is going to be a problem."

A representative of Murray's Feed Service in Delaware said it had a limited supply of feed.

Paul J. Lowry of Salisbury, district supervisor of the Interstate Commerce Commission, said his office is set up to grant emergency measures for local truckers to haul meal and grain. The trucks, however, would have to comply with safety, insurance and other requirements. Permission could be granted in a matter of hours to trucks meeting requirements, he said.

C. W. Richie of Cargill, Inc., Seaford, Del., said the soybean oil meal plant at Norfolk, Va., has an abundance of meal. But his firm is not in the transportation business. Mr. Richie was trying to make arrangements with truckers to move the meal to the Delmarva Peninsula. Or, feed mills could provide their own transportation.

Connecticut Poultry Producers' Day Set

DANIELSON, CONN. — Poultry Producers' Day, sponsored by the University of Connecticut College of Agriculture, will be held in the agricultural school auditorium Sept. 15. Dr. E. P. Singsen, head of the poultry science department, will be in charge of the event which will get underway at 7:30 p.m.

Speakers will include: Dr. John Hammond, O. A. Newton & Son, Bridgeville, Del., and Dr. Jerry Roundtree, poultry pathologist for Lipman Poultry Co., Augusta, Maine.

A panel will investigate current broiler problems. Panel members are: Dr. Singsen; Dr. C. F. Humboldt, head of the Connecticut department of animal diseases; Dr. C. D. Mueller, geneticist, Arbor Acres, Glastonbury, Conn.; W. A. Aho, Connecticut extension poultryman, and T. C. Morrison, extension economist.

SCHOOL

(Continued from page 1)

will be the first such detailed discussion before a large feed industry audience.

Feed men present will hear the

Eric Carlson

Erwin Wascher

presentation of various views and data on the farm mixing question. Factors affecting the feed industry and its role will be discussed.

Carl Vosloh

Moderating the panel discussion will be Eric Carlson, assistant to the production manager, Ralston Purina Co., St. Louis. Mr. Carlson, who will be chairman of the 1961 Production School, is recognized as a leading feed production authority.

Panel members will be Dr. R. J. Mutti, agricultural economist at the University of Illinois, who has done research in and presented reports on the economics of farm processing of feed; Oakley M. Ray, an ag economist who is director of market research for the American Feed Manufacturers Assn. and formerly was with Purdue University and the American

R. J. Mutti

Oakley Ray

Meat Institute; Carl J. Vosloh, Jr., U.S. Department of Agriculture economist who has conducted marketing and production research in the feed industry and who formerly was in production and sales and service work with feed manufacturing firms, and Erwin C. Wascher, vice president—operations, Honeggers' & Co., Inc., Fairbury, Ill., who is responsible for day-to-day operations of his firm and whose 15 years of experience have embraced practically every phase of company activity, including production.

The panel members will make brief talks and then answer questions on all phases of the question of farm mixing and the feed industry relationships.

Also announced by Production School officials is a talk to be given by Dr. V. John Brensike of USDA on grain marketing in the Soviet Union. This special talk will be in addition to previously announced program presentations and discussions on important plant operation topics.

To Stop Use of Terms

WASHINGTON — The Federal Trade Commission has announced that General Mills, Inc., Minneapolis, has agreed not to use such terms as "meaty," "meat," "fish," or "liver" to describe meat meal, fish meal or liver meal in its Surechamp dog food.

The federal agency said the firm also "must not represent in any manner that the product contains meat, fish, liver or other ingredients, when this is not a fact."

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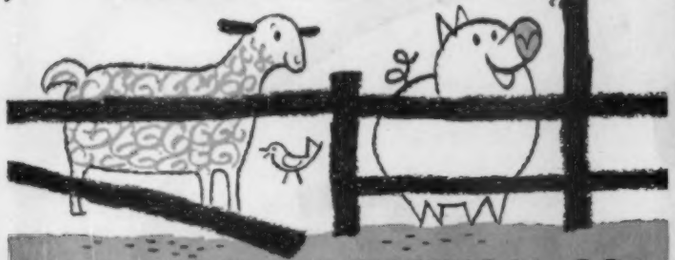

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Illinois Scientists Report on Vitamin A Deficiency Study

By PAT CLOSE
University of Illinois

URBANA, ILL.—Four major research reports captured the attention of cattlemen attending the annual University of Illinois Cattle Feeders Day Sept. 2.

These reports included: (1) Recovery of feeder steers deficient in vitamin A, (2) how long to feed corn silage free choice for the cheapest gains, (3) feeding value of high moisture ground and shelled corn and (4) dwarf corn silage versus regular corn silage.

The vitamin A study revealed that cattle deficient in this vitamin recover more quickly when they receive a commercial supplement than when they receive alfalfa leaf meal.

Beef cattle researcher Dr. George E. Mitchell first explained to the audience that many midwestern feeder cattle have developed typical vitamin A deficiency symptoms. This has occurred even though the steers received feeds supplying an adequate amount of carotene—the precursor of vitamin A.

For this recovery study, the Illinois workers used three groups of vitamin A-deficient steers. These steers had been on previous feeding trials at Illinois. And they had received feeds that supposedly supplied an adequate amount of carotene. Later analyses, however, showed that the feeds actually supplied a slightly below normal amount of carotene.

When the steers developed the classic vitamin A deficiency symptoms, Dr. Mitchell and his co-workers used them to test recovery treatments.

One group served as the "control" group and did not receive any supplemental source of the vitamin. The second group received alfalfa meal. And the third received a commercial supplement. Both the alfalfa meal and the commercial supplement supplied about 21,000 International Units of vitamin A daily.

Dr. Mitchell explained that steers of this size normally require only 6,800 I.U.'s daily.

Within a week, the appetites of both treated groups significantly increased. The control steers, however, made average gains of only 0.95 lb. daily during the six week "recovery" period. Steers receiving the alfalfa meal gained 1.74 lb. daily per head.

But steers receiving the commercial supplement made average daily gains of 1.93 lb. Dr. Mitchell added that the commercial supplement was also cheaper than the alfalfa meal.

Several steers in each group had previously received stilbestrol implants. The study did not reveal, however, any relation between the implants and the deficiency or the rate of recovery.

The Illinois workers are continuing their studies to find the real cause of the vitamin A deficiencies.

Feed Corn Silage 140 Days for Cheapest Gains—A report made by Dr. A. L. Neumann, head of the beef cattle division, answered a question many cattle feeders have probably asked themselves: "How long should I feed corn silage free choice to get the cheapest gains?"

About 140 days seems to be the answer, according to Illinois tests.

Dr. Neumann said they compared three groups of steers fed free choice corn silage for 140, 210 and 280 days. Then, each group went on a full feed of grain. A control group of steers started on a full feed of grain immediately.

All steers started on test at approximately the same weight and were carried until they weighed about 1,050 lb.

Of the four groups, the steers receiving free choice corn silage for 140 days turned in the cheapest gains. Their total feed costs, including silage and grain, averaged $83.49 per head.

Steers that received corn silage for 280 days had the second lowest feed costs—$85.81 per head.

Feed costs of steers receiving the silage for 210 days averaged $87.02 per head.

The highest feed costs, $92.96 per head, were chalked up by the control steers who did not receive any free choice corn silage. The ration of these steers contained cracked shelled corn, soybean meal, 15 lb. of corn silage and 1½ lb. of hay.

This is essentially the same ration that the other steers received after their free-choice silage feeding period.

Dr. Neumann emphasized that this test further proves that corn silage is the cheapest basic ingredient in cattle rations.

Wet Corn Produces Slower, More Costly Gains—Beef cattle scientist Dr. W. W. Albert told the attentive audience that cattle receiving high-moisture corn in a recent test made slower and more expensive gains than similar cattle receiving dry corn.

Dr. Albert said the test compared four types of corn: (1) Wet shelled corn, (2) dry shelled corn, (3) wet ground ear corn and (4) dry ground ear corn. Dr. Albert and his co-workers ran this test to compare the feeding value of these four types of corn when fed to fattening beef cattle.

The moisture content of the wet shelled corn averaged 32%. But the wet ground ear corn tested 36% because of the cob's higher moisture content. This moisture level turned out to be too high when compared

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with the 25-30% level usually recommended.

The moisture content of the dry corn averaged 15%.

Each type of corn was incorporated into a standard fattening ration and fed to Hereford heifers for 131 days.

Results showed that the dry ground ear corn produced the best gains at the lowest cost. Heifers receiving this corn gained 2.07 lb. per head daily at a cost of $13.36 for every 100 lb. gained.

The dry shelled corn ranked second. It produced gains of 2.01 lb. daily at a cost of $15 for every 100 lb. gained.

Cattle receiving the wet shelled corn made gains of 1.81 lb. daily at a cost of $16.27 cwt. of gain.

Heifers receiving the wet ground ear corn turned in the poorest performance. They gained only 1.51 lb. daily at a cost of $16.74 for every 100 lb. gained.

Dr. Albert said that a reduction in the wet corn's palatability and feeding value probably caused the heifers receiving it to make slower and more expensive gains. This reduction was due to (1) excessive moisture content at harvest and (2) undesirable-type fermentation that occurred during ensiling and feeding.

He also said that only a small amount of corn was fed daily from each silo. Consequently more rapid feeding may have improved the wet corn's feeding value by reducing the amount of fermentation.

Dr. Albert emphasized that the amount of moisture at harvest time plays a significant role in wet corn's feeding value. If corn is harvested for use as ground ear corn, he urges farmers to test the entire ear and not the grain alone.

The ear should test from 25-30% moisture. "For remember that the final ground ear corn mixture will contain at least 5-10% more moisture than the grain alone does at harvest time," he said.

Dwarf vs. Regular Corn Silage—With interest in dwarf corn increasing every year, Illinois scientists decided to test its feeding value as silage. The results make it look promising.

J. E. Zimmerman told the audience that they compared dwarf corn silage with regular corn silage in both wintering and fattening rations.

They found that steer calves receiving the dwarf corn silage performed just as well as steers receiving the regular corn silage. This was true in both the wintering and fattening rations.

Mr. Zimmerman explained that as harvested and fed, the dwarf corn silage had a higher dry matter content than the regular silage. But the dwarf corn actually yielded fewer tons of silage per acre. On a dry matter basis, however, there was little difference in yield between the two types of silage.

The dwarf corn silage also had a higher percentage of leaves, but a lower percentage of stalk than the regular corn silage.

As a result of these facts, Mr. Zimmerman concluded that dwarf corn silage is at least equal in feeding value to regular corn silage.

Nicaragua Feed Operation Planned

MANAGUA, NICARAGUA — Formation of a new corporation to produce livestock feed and wheat and corn flour in this country has been announced by D. A. Stevens, vice president and general manager of the flour division of General Mills, Minneapolis, and Gabriel Horvilleur, general manager of Palazio, Horvilleur & Co., Ltd. here.

Construction is to start this fall on a new mill at Chinandega, 80 miles northwest of here, the two men said.

The plant will be at the site of the cotton ginning operations of Palazio, Horvilleur & Co. Ltd., where it will have access to transportation and other facilities. It will be able to process 100 tons of wheat and 40 tons of corn per day.

Construction and operation will be supervised by General Mills' technical staff.

The new plant will be Nicaragua's first commercial milling operation. Mr. Stevens said that the construction of the mill marks a major step in industrialization of the Central American country.

Illinois Dealers Meet

DECATUR, ILL.—More than 100 Illinois dealers for Standard (KimberCHIK) Hatcheries attended a meeting recently at the Hotel Orlando.

Egg quality and marketing, along with credit and cholesterol were among the topics discussed at the meeting. A film of the Kimber Breeding Farms at Fremont, Cal., was shown.

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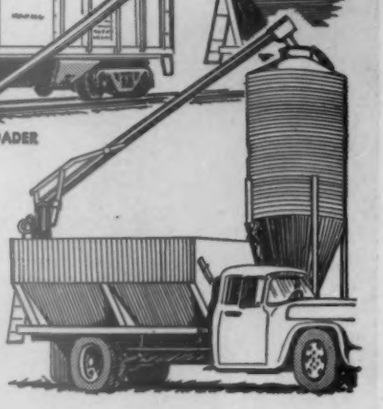

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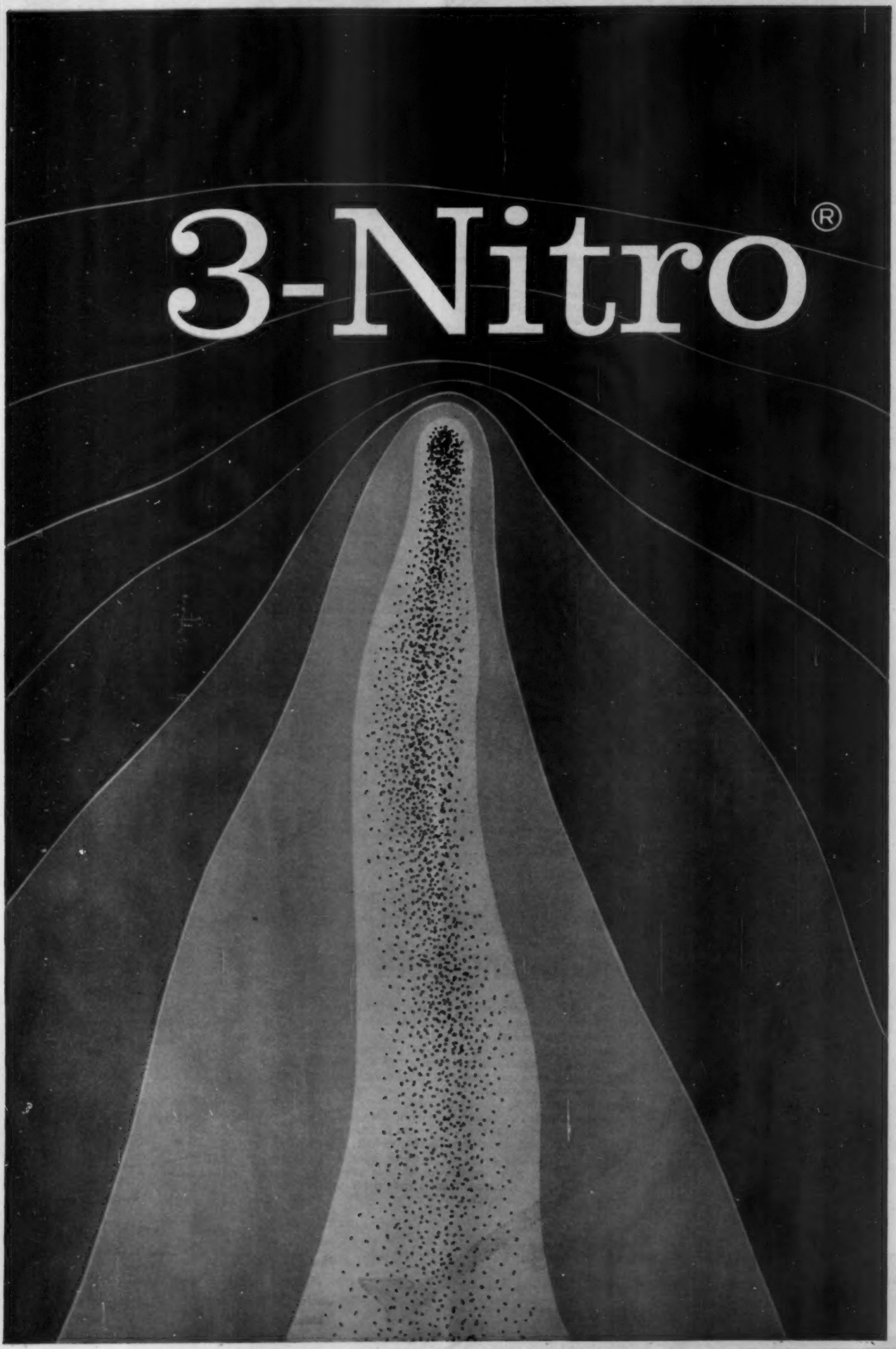
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Firm Starts Meat Tenderness Study

NEW YORK—A study of the effects of liquid supplement feeding on meat produced from ruminant animals has been announced by Dr. H. J. Prebluda, biochemist, U.S. Industrial Chemicals Co., division of National Distillers & Chemical Corp.

He said scientists in the company's research laboratories at Cincinnati are conducting the comprehensive, long-range study of texture and tenderness of meat. Measurements are being made of muscle fiber diameter of beef and lamb from animals fed on a liquid supplement program, as compared to muscle fiber diameter of ruminants given conventional rations.

Preliminary findings of the research were reported by Dr. Prebluda Sept. 1 at the Fifth International Congress of Nutrition, Washington.

"Our results already show a significant trend toward smaller muscle fibers in the liquid-supplemented ruminant animals," he stated.

"We believe the USI study will pave the way toward discovering additional information that will benefit meat packers and consumers," he emphasized. "This research is aimed toward finding ways to consistently produce more tender meat through varying the ruminant ration—rather than by genetic means alone. Also, fiber diameter measurement will be a valuable adjunct to studies that are conducted on meat tenderness through taste panel and shear value tests."

Obtain Samples

In this research, U.S. Industrial Chemicals Co. investigators obtain meat samples of both liquid-supplemented animals and conventionally-fed animals, Dr. Prebluda explained. Samples are prepared from beef and lamb of different age, sex, grade and cut.

Small cubes of muscle for histological studies are removed from similar areas and treated in a uniform manner. With the use of special dissecting microscopes and needles, minute groups of fibers are teased and separated from the muscle tissue. Individual fibers are compared under the microscope and the diameters are measured using an ocular micrometer.

Dr. Prebluda pointed out that earlier studies reported by Hiner et al, in Food Research, 18, 364-376 (1953), clearly establish the relationship of fiber diameter to tenderness of beef muscle. "However, little scientific work has been done in the past on correlating ruminant feed rations with meat structure," he stated.

In his report to the International Congress of Nutrition, Dr. Prebluda outlined the events that led to the launching of the USI meat tenderness research.

During 1958, a new feeding program was made available nationally through the joint efforts of U.S. Industrial Chemicals Co. and Feed Service Corp., Crete, Neb. The program included use of a supplement called Morea liquid feed. Several million ruminant animals have been fed out on the program since then, officials said.

MUSCLE FIBERS—Typical comparisons of muscle fibers taken from legs of lamb are shown in these USI pictures. Hind leg section of ewe lamb (top) is from an animal that was fed a conventional ration. The bottom sample, the hind leg section of ewe lamb showing smaller muscle fiber diameter, was produced on a liquid supplement program, H. J. Prebluda noted. Measurements made on a number of individual muscle fibers from these lambs indicated the meat from liquid-supplemented animals had approximately 27% smaller fiber diameter in the hind leg. The small black areas in each photo are the cross-sections of muscle fibers.

"The liquid supplement introduces a new concept in ruminant nutrition," Dr. Prebluda explained. "Its ingredients include urea nitrogen, ethanol (ethyl alcohol), phosphoric acid, molasses and trace mineral elements. Key ingredient is ethanol which acts as a hydrogen donor to improve metabolism of micro-organisms in the rumen.

Preliminary Observations

"Preliminary observations of beef and lamb carcasses from animals that had been in feedlot trials indicated the liquid supplement, co-fed on a program with grain and roughage, produced tender meat with more interior marbling and less waste cover fat. Shear tests and taste panel findings seemed to bear out the belief that this meat was more tender than meat from animals that received a conventional ration," he stated.

"Meat packers and consumers share a common goal—they all are looking for consistently tender, flavorful beef and lamb. As larger numbers of ruminants that had received the liquid supplement began to be marketed," Dr. Prebluda continued, "a groundswell of comments from the field reached USI and Feed Service Corp. Packers, meat fabricators, supermarket operators, consumers and farmers reported that the meat from animals on the liquid supplement program had improved texture and tenderness.

"Thus, we decided to conduct this study of liquid supplement feeding effects on meat, in the interest of developing modern feeding practices that will produce the type of beef and lamb everyone is looking for today," he concluded.

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EGG RECIPE FOLDER—This new folder describing easy-to-prepare egg dishes has been made available to the poultry industry by Whitmoyer Laboratories, Inc. The folder gives recipes for breakfast, lunch, dinner and snacktime.

Egg Recipe Folder Offered by Whitmoyer

MYERSTOWN, PA. — "The versatile egg is the one easily prepared, perfectly delicious and nutritious food for any time of day or night." This is the theme of the new egg recipe folder recently made available to the poultry industry by Whitmoyer Laboratories, Inc.

"Too often the egg is thought of as a food only to be considered at breakfast time," Whitmoyer officials say. "Yet the truth of the matter is that the egg is unusually versatile. It's fine for any occasion." To support this theme, the Whitmoyer folder gives recipes, pictured in full color, for easy-to-prepare egg dishes for breakfast, lunch, dinner and snacktime.

The new folder was developed by the Whitmoyer firm because it was believed "a folder of this type could be used to real advantage by poultrymen in their continuing drive for increasing the consumption of poultry products." It is the most recent contribution to this job from Whitmoyer Laboratories—longtime pioneers in both science and service to the poultry industry.

The folders are available without charge in quantities sufficient to meet the needs of most poultrymen. Folders can be obtained by contacting Whitmoyer dealers or by writing directly to Whitmoyer Laboratories, Inc., Myerstown.

Tested Swine Sale Planned in Oregon

HERMISTON, ORE. — Improved efficiency and quality of Oregon pork production are slated for a boost in mid-September. About 55 quality boars from leading swine herds in the state have been carefully tested for performance by the Oregon Swine Testing Station and will go on sale Sept. 17 at the station near here.

The sale is scheduled to start immediately following noon lunch available at the grounds, reports Dr. David C. England, Oregon State College animal husbandman in charge of the testing station. Sale visitors have been invited to tour testing facilities and inspect animals and their records during the morning. A summary of the performance records is available now from Oregon county extension agents.

Located at OSC's Umatilla branch experiment station near Hermiston, the testing program is supervised by OSC research and extension personnel. The boars went on test at 60 lb. and will have reached 200 lb. by sale time.

Performance requirements include average daily gains of at least 1.6 lb., a gain of 100 lb. on not more than 350 lb. of feed, and not more than 1.4 in. of backfat. Dr. England said many of the boars have gained 100 lb. on less than 300 lb. feed and have exceeded 2 lb. average daily gain.

Poultryman Named

COLLEGE PARK, MD.—The University of Maryland has announced the appointment of Thomas Stabler as extension poultryman in the poultry department. One of Mr. Stabler's duties will be to work with the youth of the state carrying on poultry projects, according to Dr. C. S. Shaffner, head, poultry department.

A graduate of the University of Maryland, Mr. Stabler majored in poultry husbandry as an undergraduate and at present is taking advanced work in poultry at the University of Maryland. For four years, he managed a commercial poultry farm which specialized in producing table eggs for chain food stores in the Washington, D.C., area.

DISCUSS HOG PROGRAM—These men from Doughboy Industries formula feed division discuss the prospects produced by a new hog program presented at the company sales meeting at the River's Edge in Somerset, Wis. Looking over literature are (left to right): Laton M. Henderson, vice president of the feed division; Art Greenlee, swine specialist, New Richmond division; Bert Nolin, sales manager, Ames division; J. Russell Solheim, assistant general manager, Ames division, and Parnell E. Pederson, sales manager, New Richmond division.

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Owners report 30% annual return on investment
(Grinding and mixing charges only)

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STANDARD EQUIPMENT . . .
- Direct drive 332 cu. in. engine-driven mill.
- Permanent magnet located AHEAD of grinder.
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- Two- to three-ton concentrate carrying capacity.

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CHAMPION'S two- to three-ton carrying capacity of bagged concentrate can be dumped directly into the mixer through the platform concentrate hopper. This eliminates extra handling on the part of the operator, and also eliminates the need for an extra ingredient truck.

CHAMPION PORTABLE MILL CO. 2109 COMO AVENUE SOUTHEAST MINNEAPOLIS 14, MINNESOTA

BIG CHIEF

Pit Augers • Elevator Legs • Mixers • Scalpers •
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Hammer Mills 50 to 150 H.P.

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CUSTOM MILLERS SUPPLY CO.
BOX 537 MONMOUTH, ILLINOIS

MANUFACTURERS OF QUALITY MILLING EQUIPMENT SINCE 1930

Monsanto Creates Ag Chemical Unit

ST. LOUIS — Monsanto Chemical Co. has created an agricultural chemicals division to improve and strengthen its service to agriculture.

Tom K. Smith, Jr., St. Louis, has been elected a vice president of Monsanto and appointed general manager of the new operating division. His managerial staff, all of St. Louis, includes J. Paul Ekberg, director of marketing; Dr. Richard S. Gordon, director of research; Stanley B. Johnson, director of engineering; Robert R. Rumer, director of manufacturing; James H. Senger, director of development, and Fred T. Mitchell, director of administrative services.

Mr. Smith said the formation of the new division brings about a consolidation and strengthening of research, development, manufacturing and marketing efforts in agricultural chemicals formerly shared between two Monsanto divisions as a part of their broad, multi-industry interests.

Mr. Smith pointed out that agriculture was Monsanto's second-largest industry customer in dollar volume last year, accounting for more than 11% of the company's total sales to consuming industries.

"Chemicals are indispensable tools of today's agriculture. They will become increasingly important as an expanding population demands quality food in abundance and at a low price from the dwindling farm labor force," Mr. Smith said. "This is a major research challenge and marketing opportunity to companies such as Monsanto. Our new agricultural chemicals division will concentrate vigorous effort on them and, at the same time, will make for an optimum economy and efficiency in these efforts."

Division's Products

Products made and marketed by the new division will include fertilizers, plant and soil fungicides, insecticides, herbicides and animal feed additives. Monsanto is the largest manufacturer of elemental phosphorus and one of the major producers of nitrogen products, the announcement notes.

Headquarters and research laboratories for the new division will be located at St. Louis. Its production facilities will include plants at El Dorado, Ark., and Luling, La., with additional manufacturing units at the company's Anniston, Ala., Nitro, W.Va., and Monsanto, Ill., locations.

ATHLETIC FEED REPRESENTATIVE—Al Hall, 6 ft., 1 in., 220 lb. hammer thrower for the U.S. Olympic team, is shown warming up for the recent Olympic Games in Rome. Mr. Hall is a poultry feed sales and service representative for Wirthmore Feeds, Inc., Waltham, Mass. Mr. Hall has been employed by Wirthmore Feeds since 1958. His territory is the southern section of Connecticut. Mr. Hall also participated in the 1956 Olympic Games in Australia.

N. R. Mehrhof Honored

ASTOR PARK, FLA.—N. R. Mehrhof, head of the University of Florida poultry department since 1935, has been selected as a Fellow in the Poultry Science Assn. The announcement of the honor was made by Dr. R. H. Harms, associate poultry husbandman with the Florida Agricultural Experiment Station, who accepted the award for Prof. Mehrhof at the association's annual meeting in San Francisco.

NEW GRAIN STORAGE

WASCO, ORE. — Construction of new grain storage facilities at Wasco and at Moro, Ore., is well underway, the North Pacific Grain Growers, Inc., reports. At the Sherman Cooperative Grain Growers, Wasco, workmen are busy finishing a new 60,000 bu. seed house annex. Nine miles away at the Moro Grain Growers Assn., a 150,000 bu. bolted steel tank is also nearing completion.

NEW and only with the Ultra-Life Program

—helps promote full capacity milk production!

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Ultra-Life Feed Manufacturers build better Dairy Feeds with the New "Artificial Rumen Technique"

A fistulated cow serves as a living laboratory and feed samples are inserted into the rumen through the hole to learn more about ruminant feeding and the digestion process.

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Invariably popular with dairy herd owners, BALANCED DIGESTIBILITY testing is bringing new customers and increased business to Ultra-Life feed manufacturers.

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Without obligation, send me further information about the Ultra-Life Profit Proved Plan for my Brand Name Feeds.

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DEPENDABILITY... in Quality and Service

Avoiding Excessive 'Fines' in Pellets

"Make the best pellet you can and handle it as little and as gently as possible and your fines will be minimized. Follow the operational advances that come along, paying particular heed to conditioning, and the efficiency of pelleting will be improved."

By Paul J. Husting
California Pellet Mill Co.

When it comes to fines in pelleted feeds, there are precautions we can take, there are procedures we can employ, there are operational innovations we can try, and all of these will help; but we might as well face it—handling makes fines and more handling makes more fines.

First, very briefly, I'll discuss what we feel are the best ways of handling the finished product in bulk trucks and then I will discuss how to make a good tough pellet that will withstand the maximum abuse and slough off the minimum of fines.

First of all, I should point out that these fines are created by the disintegration of the pellet at the ends. Obviously, the hard cylindrical surface remains intact while the rough ends flake, chip and powder off. The more times they are handled, the greater are the chances that these ends will be rubbed, creating fines. So the logical approach must be, first of all, to eliminate all the handling you can and then to control the essential handling so that the more objectionable elements are eliminated.

Air Handling

We feel — and I should expect agreement on this point from all pellet mill manufacturers—that air handling of pellets is preferable to screw conveyors if the rules are obeyed. The problem, however, is often multiplied by someone who ignores the rules, either from necessity or lack of knowledge. When screw conveyors are used they are always installed in a manner that carries the pellets in a straight line. As soon as air enters the handling picture, though, the tendency seems to be to put in bends and angles without regard for the consequences. Everyone of these bends and angles becomes a hammer attempting to destroy the pellets as they hurtle by. High velocity air, too, tends to add to the likelihood of pellet destruction. It's just the same as an air rifle propelling a BB. Shoot that BB against a steel plate and the greater the velocity of the air that propelled it, the flatter that BB will become on the impact. Every time those pellets make a bend in an air trunk a certain number of them will hit the metal and break, producing two more surfaces from which fines will slough off. The greater the speed with which they hit the metal the greater the breakage is bound to be. Comparatively low velocity air, however, will float the pellets in the air stream reducing this breakage to a minimum. It should be obvious, too, that the length of travel should always be held to a minimum.

Drag Type Bulk Truck

Probably the least breakage in bulk trucks occurs with the drag type unit. These are in more general use in the West, but certainly their use indicates that they are superior to either screw or air types from a pellet breakage standpoint. Naturally, there are limitations, too, to their utility. Inability to deliver the product as high in the air as a screw or air type is an objection and — as always — price, we understand, places them at a competitive disadvantage.

Of course, the operator of the truck himself can probably do more than any other factor to control fines. The inclination of some drivers is to load the screw and speed it up in order to get on through their routes. Nothing short of a hammer mill chews up pellets like a fast running overloaded screw. The same parallel can be drawn with the driver of an air equipped truck who operates the blower at a higher speed than is required to convey the pellets.

Naturally, however, one of the best ways of controlling those fines is by making a good pellet in the first place. We have done a great deal of work, especially during the last three years, on methods of improving pellet quality. These experiments have run the gamut of die specifications, die speeds, grind, mash conditioning, fat additions and many others. I will go into some detail on conditioning and fat addition, for these can be discussed as a general topic, while die speed, die specifications and grind become more specific.

I am discussing primarily poultry formulas.

Seek Tougher Pellet

Our work over the past few years has proved thoroughly that a far tougher pellet can be produced by applying all the steam we can get into the mash and increasing that mash temperature to approach 200° F. You will note, perhaps, that I refer to a tough pellet instead of a hard pellet. I do this purposely, for we think of a hard pellet as a brittle one, contrasted with a tough one which has the quality to resist breakage and disintegration. It's about the comparison one would make between a piece of glass and a piece of tire rubber. The glass is harder but the rubber is tougher and a tough pellet is what we strive for.

So, one of the basic requirements to produce this tough pellet is lots of steam.

Getting the mash temperatures to approximately 200° F. gelatinizes the starches in the ingredients making a more palatable and digestible product, but, more important from the machinery standpoint, producing within the mash an adhesive quality that literally glues each minute particle to the other as the pressure is applied in the die.

Vitamin Potency

When we mention temperatures as high as 200°F., we immediately hear a good deal of static condemning any operational procedure that brings feed to this temperature. Destruction of vitamin potency is the first mentioned and by far the most feared result of high temperature. With the complete formulation going into today's feeds any loss of quality can be serious, but in a market as close as the broiler market anything that cuts conversion rates or increases the likelihood of disease—such as vitamin or medication loss—can be disastrous. Certainly we make no claims to having the answers, but this is the sort of thing we've checked pretty carefully with some highly qualified people in order to give you their latest thinking. The consensus is that only if the material is held at this temperature for a fairly prolonged period will any objectionable deterioration be experienced. Five minute exposure at 250°, for example, diminishes vitamin A somewhat, but this is one of the least stable of the vitamins.

George Lanz of the Ralston Purina Co. has done a good deal of work on trace item stability in feeds and he states that potency loss due to heat created in conditioning or pelleting was something he feared, but that it hasn't occurred. More likely, he says, any loss is a mechanical thing. For instance, vitamin C has sort of an envelope surrounding the nutritionally valuable core and when this envelope is broken, the deterioration is very, very rapid. This can occur in handling and conveying just as readily as in pelleting, according to his test.

Dr. Willis Johnson, who is highly respected in scientific circles, reports in his work that where the addition of drugs and vitamins are in liquid form their ability to retain full potency under heat conditions is greatly reduced, but even in a liquid state, he feels that ten minutes of fairly high temperatures might produce small loss.

High Temperature, Moisture

Eastern States Farmers Exchange is installing right now some units that will condition the feed at relatively high temperatures and moistures prior to pelleting. The meal within these cylinders will be brought to about 200° F. by means of a steam jacket on the outside and the addition of high pressure steam on the inside. The head research man, Fred Hummel, tells me that he anticipates little or no potency loss, but if some loss does occur, they will overload the formula to compensate for it. Their feeling is that this can be justified by the fact that they will be making a better product both from a nutritional and operational standpoint.

Check on Loss

Eli Lilly & Co. has checked into the loss of potency problem as it pertains to their products, but they frankly admit that they know little about it as yet. Mr. Bender, who heads up their agricultural research, told me, however, that in his opinion the loss through increased conditioning time wouldn't amount to anything, for he feels that both the time and temperature involved would be insufficient to produce any significant loss.

Chas. Pfizer & Co.'s Robert Wornick presented a paper last September at the Midwest Feed Production School on what happens to micro-ingredients in pelleting. The conclusion was that potency losses of micro-ingredients as a result of the pelleting operation itself are seldom significant. I talked to Mr. Wornick recently, and he tells me that nothing in the past year has occurred to alter this thinking. While many times the pellet mill is blamed for the micro-ingredient losses, it seems far more likely that these losses occur in storage. Fast inventory turnover, he says, will do more than anything else to maintain potency.

Well, the upshot of all of this is that day by day more and more manufacturers — large and small — are adopting the practice of operating at higher temperature and moisture

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EDITOR'S NOTE: *This article is from a talk given by Paul J. Husting, assistant general sales manager, California Pellet Mill Co., Crawfordsville, Ind., at the 23rd annual summer convention of the North Carolina Feed Manufacturers Assn., held at Asheville, N.C., Aug. 5-6.*

BLUE STREAK Prater's PRE-ENGINEERED—

FABULOUS 60's FEED MILL

DESIGNED TO COST LESS—

ENGINEERED TO PRODUCE MORE—

"Not by accident, but by deliberate design," says PRATER President, George F. Thomas, when describing the PRATER fabulous '60's Pre-Engineered Mill.

Here is a feed mill researched from every viewpoint by the PRATER development, engineering, and production divisions, through thousands of man hours before a pencil or line was put to drawing board . . .

This is a mill built to accommodate the miller's construction budget—he can start with a modest basic structure and add facilities as he grows, such as more mixing and grinding equipment, greater storage, or an office building. And the miller is assured that each new addition will efficiently and structurally integrate with all existing construction.

This is a Mill planned to help the Miller make maximum use of local grain; featuring efficient grinding and mixing with proper supplements to give the farmer the lowest cost feed he can obtain anywhere, anywhere!

ALL THIS and more is the PRATER Pre-Engineered Fabulous 60's Feed MILL! And you'll want to know everything about it—from blueprint to detailed specifications. Remember, too, the PRATER Pre-Engineered Mill can be customized to your individual plant requirements!

Blue Streak Advance Custom Mill

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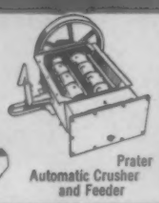
Blue Streak Vertical and Horizontal Screw Conveyors



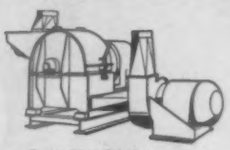
Prater Automatic Crusher and Feeder

BLUE STREAK Prater

PRATER PULVERIZER CO.

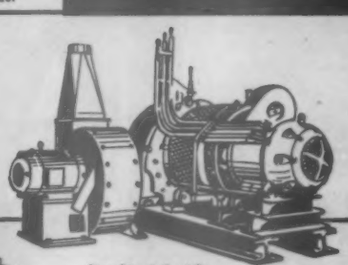
1537 S. 55th Court, Chicago 50, Illinois

Blue Streak Hay and Grain Grinder

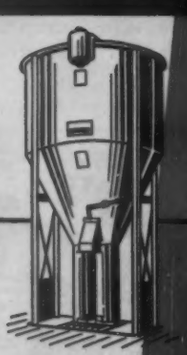


Prater Fibre Grinder for Commercial Mills

Prater Airlocks



Blue Streak Dual-Power A.C. Mill with Pratermatic Screen Changer



Blue Streak Twin Spiral Mixer

Blue Streak Corn Cutter

Blue-Streak Dual-Degree Drag Feeders

Blue Streak Double Chain Drag Feeder

Blue Streak A.C. Mill with Pratermatic Screen Changer

SACK TURNS BLOUSE — A 25-lb. cotton flour bag which converts into a full-cut, casual blouse has been introduced by Bemis Bro. Bag Co. After emptying the contents, a person removes the bag stitching, washes, irons and dons the ready-to-wear blouse. No additional sewing is required. Available in Bemilin dress prints or cambric, the blouse bags can be filled on standard packaging equipment, spot- or band-labelled and sewn closed at the bottom. Bemis has applied for a patent on the blouse bag.

levels and making a tougher pellet at better capacities in the process.

I want to point out one more thing before I get away from this subject. The general conception is that a matter of minutes elapses between the time the meal enters the conditioning cylinder and the time it emerges from the pellet mill. This really is not the case. Assuming, for example, that you are putting through your pellet mill 10 tons of feed hourly, the retention time within the mixing chamber on a standard 100 h.p. pellet mill is only —think of it—22 seconds. The time the material is in the die is a little less that four seconds, making the total elapsed time that this material is in the actual pelleting process only 26 seconds. This is a mere nothing when one considers, too, that part of this time is consumed in bringing the material from atmospheric temperature up to 200° F.

Little or No Expense

The elements necessary to make this conversion to higher temperatures and higher moistures are generally simple, and little or no expense is involved, but I'm not going to take the time now to go into a detailed explanation. I merely tell you that this is an operational procedure that you can easily incorporate in your pelleting program and that our personnel will gladly come to your mill and consult with you on how to accomplish it. The results will astound you.

Fat Addition

The other factor I want to discuss with you is that highly important in making a good tough pellet is proper fat addition. The only way I know that fat can in any quantity be added prior to pelleting and the quality of the pellet preserved is to use the whole soybean instead of soybean meal and added fat. A lot of experimental work is being done to perfect this process but for most mills this is probably quite a way off and represents a fairly substantial investment.

Those of us in the machinery business tried every way possible to make a high grade pellet with 3% or more added fat. We experimented with die sizes, shapes and thicknesses. We tapered the holes and we gave them reverse taper. We eliminated countersinks and we roughed the hole to provide c h o k e. We increased die speeds by degrees to a point where we were twirling the die so fast it wouldn't a c c e p t the feed and we slowed it down to the point where the rotation speed wasn't great enough to carry the feed up to the rollers. In short, we tried everything we knew or could dream up, but nothing worked. As a matter of fact, I will honestly admit that as the demand for fatted pellets skyrocketed, our experiments, one after the other, fizzled out.

Add After Pelleting

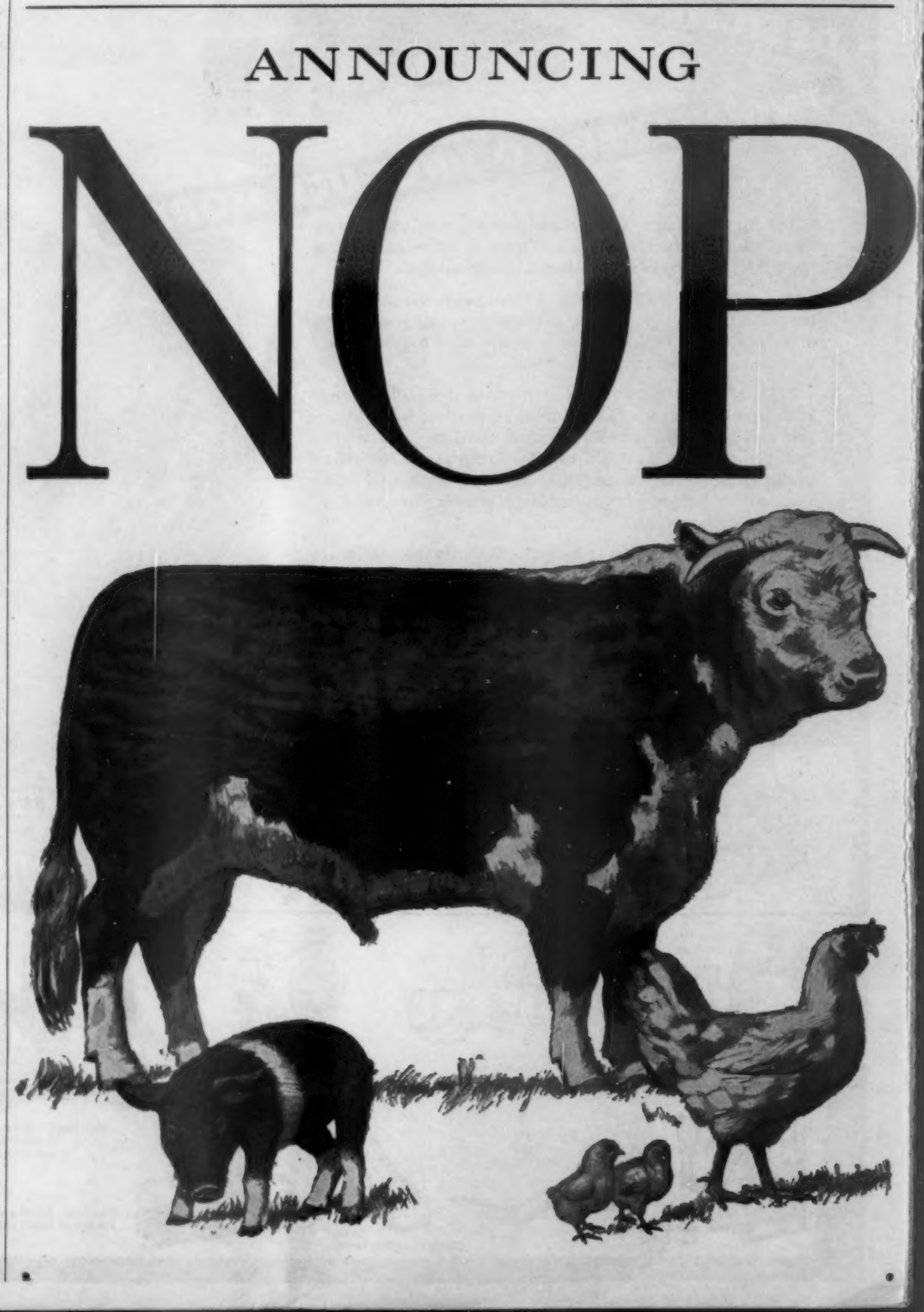
And then it happened. One Monday morning it broke in the trade publications all at once! A. W. Perdue Co., Cooperative Mills and Ralston Purina announced simultaneously, and yet without each other's knowledge, that they had found a way to add fat successfully. This now sounds like "me tooism," but in our Crawfordsville, Ind., laboratory we hit it the same time. Add the fat after pelleting. That's just about all there was to it. Make yourself a good firm, tough pellet, cool it, and then add the fat. Give it a curing either for several hours in a bin, or it can be accomplished by reheating and recooling, and you wind up with a better pellet than you had before adding the fat.

S i n c e t h a t first break-through many fat adding systems have been devised. There are some very elaborate and expensive ones and there are some extremely simple ones.

Curiously, the simple ones seem to work as well as, and in some cases better than, the elaborate ones. I think of a mill, and a pretty good sized one, that has about $1,000 wrapped up in its fat adding system. The firm has had it installed for over three years now and the last I knew, they had never spent a penny of maintenance on it. It is just a measured feeding device dropping the pellets or crumbles into a slowly rotating drum into which a measured amount of fat is sprayed. That's all there is to it, basically. Again, I should tell you that our men are equipped to show you how to set this up in your mill but we don't sell them. We'll show you how it should be done but you'll have to arrange your own fabrication.

This then is our message.

I hope no one was expecting anything startling or revolutionary because I am sure that there is nothing of that sort in my talk. The basic



rules still apply as they probably always will. Make the best pellet you can and handle it as little and as gently as possible and your fines will be minimized.

Follow the operational advances that come along paying particular heed to conditioning, and the efficiency of your pelleting department will be improved.

Grain Rate Reduction Proposal Is Amended

SACRAMENTO, CAL.—A recent proposal to reduce grain rates out of the Sacramento Valley has been amended to provide that rates from that area be retained. The new proposal would include some sort of carloading allowance.

A rate reduction would give the trucks greater opportunity to meet the new rates, and hamper the railroads' efforts to recapture the grain movement.

National Renderers To Up Promotions

CHICAGO—In a reassignment of officer portfolios by the National Renderers Assn., the major change was that affecting the duties of John J. Hamel, Jr., executive director.

J. J. Hamel, Jr.

Formerly concerned with all aspects of the association activities, Mr. Hamel will now concentrate mainly on special projects to promote greater use of fats, oils and bone meal throughout the markets of the world, according to the association.

This new emphasis coincides with the changing marketing program of the NRA, which has boosted export trade from next to nothing to approximately 50% of domestic production within recent years and has spearheaded a research program to develop new uses and customers for the renderers' products.

Recently returned from an extensive tour of Europe where he analyzed market conditions, met with prospective customers and addressed a meeting of the Italian Feed Manufacturers, Mr. Hamel will continue to spend the major part of his time in similar promotional and research activities.

DEALER FILES SUIT

LEWISTON, MAINE — Turner & Ridley, Inc., feed dealer in Livermore Falls, has filed two suits totaling $33,053.47 against Oren F. Fraser, Turner poultryman, with Roland C. Houle, Adroscoggin County clerk of courts, here. The feed firm claims it is owed $26,836.06 for supplies sold to Fraser from Aug. 19, 1955, to Sept. 10, 1959, and also has $6,217.41 due in connection with the raising of 7,250 chicks by the defendant.

Milk Producing Conditions Good

WASHINGTON — Pasture conditions and price relationships during the last two months have both been more favorable for milk production than a year earlier, according to a U.S. Department of Agriculture report. Output during July was 1% greater than a year earlier, the same percentage that held throughout the first seven months of the year as a whole.

The year's production during these months totaled 77.7 billion pounds, a gain of 746 million pounds over a year earlier. For 1959 as a whole, output totaled 124.4 billion, 1.5 billion below the record set in 1957. Per capita consumption of fluid whole milk in 1960 probably will no more than keep up with 1959 use, USDA said.

Larger factory output utilized most of the increase in milk output this year. Production of butter, cheese and dry whole milk has been consistently above 1959 and ice cream has averaged higher. But, output of evaporated milk has been consistently lower. Non-fat dry milk output is running at a record high level.

Grain Storage Capacity Expanding in Texas

FT. WORTH, TEXAS—In spite of lowered Commodity Credit Corp. rates, and fear of occasional empty space, the grain storage capacity in Texas still is growing at what is regarded as a "marked pace."

On July 1, of this year, the CCC had approved in Texas a total of 632,356,000 bu. of space, compared with 564,760,000 on the same date in 1959. This means that Texas approved space has increased 67½ million bushels in the past year. And that is considered only a part of the story, says one source. There is an additional 70 million bushels of space now under construction in Texas. By this time next year, Texas will have an approved capacity in excess of 700 million bushels.

For the Southwest area controlled by the Dallas office, there is approved space now totaling 864,456,800 bu., compared to 780,247,100 on July 1 last year. Oklahoma now has approved space of 220,001,800 bu. compared to 203,000,347 in 1959. New Mexico has undergone a slight drop in storage space. The total 1960-approved space of 12,099,000 bu. is lower than the total of 12,140,000 last year.

ASL Appoints Sales Representative

MADISON, WIS. — The appointment of Jesse T. Hudgins, Houston, Texas, as regional sales representative for American Scientific Laboratories, Inc., has been announced by W. B. Lambert, sales manager for animal health products.

Jesse Hudgins

A graduate of Texas A & M with a major in animal husbandry, Mr. Hudgins has taught vocational agriculture for several years and he has spent the last five years representing firms in the animal health field. He is a native of Teague, Texas.

GRO T.M.

A PRIMARY SOURCE OF ENZYMES AND UNIDENTIFIED FERMENTATION FACTORS TO PRODUCE MORE PROFITABLE GROWTH AND BETTER FEED EFFICIENCY IN POULTRY, SWINE, CATTLE

Nutritionists are turning their attention to enzymes as the newest advance in scientific feeding. Nopco, working since 1924 in this field through one of its subsidiaries, has the advantage of long experience in enzyme research. As a result, Nopgro is a superior enzyme product. It is characterized by a wide variety of enzyme activities, especially in those factors (amylases and proteases) that aid animal digestion by breaking down starches and proteins.

A FEW FACTS YOU SHOULD KNOW ABOUT NOPGRO

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- Its high nutritive value depends, in part, on its content of unknown growth factors
- Approved by FDA for use in *all* feeds
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- Manufactured by Nopco, a basic producer of enzyme products
- Developed by Nopco's pioneering research in enzymes since 1924
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You can be among the leaders in the breakthrough to more profitable feed conversion. Start using Nopgro now. Write us for further details.

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Proposed Poultry Tax, Egg Promotion, Other Topics Discussed at Maine Event

BRUNSWICK, MAINE — Maine's proposed poultry industry tax could produce, with matching funds, some $45,000 in its first year of operation, predicted Oscar Turner, Livermore, Maine, president of the Maine Poultry Improvement Assn., at the annual Poultry Day at Bowdoin College in Brunswick. Some 150 poultrymen and industry representatives attended the program and chicken barbecue.

Various other facets of the poultry business, including nutrition, federal legislation and production contracts were discussed by other speakers. Co-sponsors of the event were the Maine Poultry Improvement Assn. and the University of Maine poultry science department.

Mr. Turner gave Maine poultrymen copies of a questionnaire regarding the industry tax proposal which will be sent out this fall. He said that, with the thinking of Maine poultrymen, the MPIA committee hoped to develop a sound industry tax program.

"The future for New England egg producers lies in increased sales of shell eggs at retail rather than developing new processed products," stated James R. Timberlake, executive secretary of the New England Egg Producers Assn., Westford, Mass.

Mr. Timberlake said the Quality Egg Council of the NEEPA was working to develop standards for egg quality that the homemaker could understand, an egg quality control program, and an egg promotion plan.

Lloyd H. Geil, general manager of the Poultry & Egg National Board, said demand for eggs could be increased 25% "by stopping leaks in the egg market." He pointed out that 18% of all consumers in the U.S. do not eat eggs because of the "unfortunate cholesterol scare."

These two "leaks" alone cause the loss of estimated sales of 43 million cases of eggs and about $380 million each year, Mr. Geil said. PENB is launching educational campaigns to combat these two leaks in the egg market. PENB is also pushing the slogan, "Eggs Have Three-Meal Appeal." It is also helping develop new egg products, such as chickendogs, chicken franks, chickenburgers, chicken loaf, eggnogs, and instant scrambled eggs.

Mr. Geil said that the poultry industry returns nearly 6 billion dollars annually to those concerned with it. "As prices stabilize, so too will your profits," he concluded.

Egg Contracts

"At least two thirds of Maine's production of hatching eggs is under contract," said Frank D. Reed, extension service poultry marketing specialist, University of Maine. "The contractor owns the birds and the poultryman contributes housing, equipment and labor," he pointed out.

"Few of Maine's market egg producers are working under contract, and I don't expect this segment of the industry to go the way of broilers because of the big difference in the two enterprises. A well managed, independent operation of economical size is fundamentally the most efficient type of unit in market egg production.

"I feel that the independent market egg producer is at little or no disadvantage compared with the grower under contract. This is true provided the producer has sufficient cash resources and size of operation to buy in volume, and provided he has a marketing agreement for his eggs to provide a steady market."

Mr. Reed presented a sample budget for determining egg contract earnings. Each poultryman was given a sheet on which he could figure his own expenses and potential net earnings from two different contract plans.

Layer Environment

Robert M. Grover, extension poultryman, University of Massachusetts, discussed the environment for egg laying flocks. He pointed out that environment was only one of several interacting factors affecting egg production, including nutrition, disease, mechanization and others. He predicted that newer methods of controlling the environment mechanically will be used generally in the future.

Light has a "terrific" potential for increased egg production, said Mr. Grover. The 14-hour day is still considered best. Adequate feeder and waterer space must be available for each bird. Good laying house insulation is essential for satisfactory temperature control. And space cannot be reduced below 2 sq. ft. per bird if good egg production is to be maintained.

Poultry Nutrition

"Proper nutrition is essential since feed represents 60-70% of the cost of raising poultry," said Dr. Leonard Dansky, nutritionist for the Lipman Poultry Co., Augusta, Maine. "However, for good results we need good all-around management of the flock, including attention to breeding, disease control, environment, etc."

Dr. Dansky pointed to CRD control with high level antibiotic feeding. In Lipman flocks, use of "potentiated," high level feeds has produced better results than has regular feeding. He stressed the need for more poultry research in Maine. He said the state was lagging far behind other states with similar sized poultry industries.

Federal Poultry Legislation

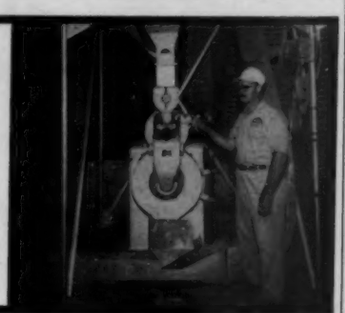
Discussing federal poultry legislation, Dr. William Jasper quoted Benjamin Franklin, "He who will trade freedom for security will lose both." Mr. Jasper is assistant director of the commodity division, American Farm Bureau Federation, Chicago.

Mr. Jasper listed the disadvantages of loan, purchase and production control programs of the U.S. government in an effort to support farm prices and income. He said a government egg purchasing program can only result in increased production and lower prices.

The Farm Bureau official said that

Alexander Bros. Inc., Osgood, Ohio specialize in poultry and hog feeds; use their Master Pellet Plant to put up 100-lb. bags of 3/16" pellets at a 60 bag-per-hour rate. Left to right: Vincent B. Mescher and Louis Alexander.

Elmer E. Bryant and Oliver Loving, owners of Farmers Milling Co., Graham, Texas report their Master Pellet Plant to be "an excellent piece of equipment." They handle all types of feed material and pellet 3/16", 1/2" and 3/4" sizes.



Walter Daily, Daily Mill and Elevator, Palestine, Illinois states: "we are well pleased with our Master Pellet Plant. It's compact and easy to operate." The firm operates their Master six days a week utilizing a variety of feeds.

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support price programs have not worked in other countries. "We must be willing to let free competition work," he added.

Richard Ammon, executive secretary of the Northeastern Poultry Producers Council, Trenton, N.J., said the over-all demand for poultry products was fairly static, with egg consumption declining and poultry meat and turkey consumption increasing.

Mr. Ammon mentioned NEPPCO's programs of massive brand name merchandising of premium quality products in the Northeast, and of encouraging exports. Also, NEPPCO has been studying New York egg price reporting, and exploring whether or not a better system of price reporting can be devised.

Dr. J. Franklin Witter reported that Maine still needs a poultry diagnostic laboratory to serve the southern portion of the state. Dr. Witter is head of the department of animal pathology of the University of Maine. He listed the respiratory diseases as being of primary significance in Maine's poultry health situation. First is air sac-CRD difficulties, followed by Newcastle disease, bronchitis, laryngo tracheitis, fowl pox, cholera, salmonellas, and coccidiosis. Coccidiosis is still one of the big problems.

Dr. Witter pointed out that research is needed on many of Maine's poultry disease problems. Also, isolation units are needed for much of this work. Much progress lies ahead in improving Maine's poultry health, he added.

Mechanization is but one way of maintaining or increasing your poultry income, said Harry C. Whelden, Jr., but added that it is no cure-all. Mr. Whelden is extension poultry specialist at the University of Maine.

Before turning to mechanization, Mr. Whelden suggested that poultrymen look at every way in which they can improve their operations. However, mechanization is over-due in the poultry industry. A case of eggs will buy more machinery than it will labor as compared with previous years, explained Mr. Whelden.

Emerson Mitchell, Lisbon Falls poultryman, and Prof. J. Robert Smyth, head of the department of poultry science, University of Maine, served as chairmen of the two sessions. Glen R. McIntire, assistant treasurer of Bowdoin College, extended the welcome. A chicken barbecue was served at noon in the Bowdoin Pines.

Oregon Tests Show Ways to Improve Value Of Barley in Hog Feed

CORVALLIS, ORE.—Proper processing and supplementation can significantly increase the value of barley as a swine feed, according to experiments conducted at Oregon State College.

"Pigs still do best on corn," says Dr. J. E. Oldfield, "but barley is also efficient and economical in rations. Our tests show that milo will serve as a satisfactory substitute for corn or barley.

In one recent trial, hogs on corn rations gained one-quarter of a lb. more per day than hogs on barley. The animals on corn required only 3½ lb. of feed per lb. of gain while the barley-fed pigs needed 4 lb.

The advantage of corn over barley has shown up in all succeeding tests, points out Dr. Oldfield, but the differences sometimes aren't so marked when various supplements are used.

Milo was compared with barley during 1959 in an Oregon trial. Here is the way the two compared: Pigs receiving milo required 3.56 lb. of feed to make 1 lb. gain while the barley-fed animals required 4.3 lb. feed to make the same gains. Average daily gain for the milo-fed pigs was 1.5 lb. against 0.96 lb. for the pigs on the barley ration.

Dr. Oldfield emphasizes that the barley lots can vary considerably in nutritive value and can greatly influence animal performance.

Barley rations can be improved in two major ways, according to Dr. Oldfield. First, the grain can be supplemented to make up for a lack of needed nutrients, and second, the barley can be processed in different ways to improve its value.

Since barley is short in protein, Dr. Oldfield has been studying the use of protein-rich supplements with barley to make a balanced swine ration. Here are the results of one study:

Ration	Avg. Daily Gain Lb.
Barley plus 2% herring meal plus 10% soybean oil meal	1.73
Barley plus tankage plus soybean oil meal (to similar protein level)	1.47

Amount of protein varies between lots of barley. For example, samples of barley received at Oregon tested from 9% to 11% crude protein. High protein barley would require less expensive protein supplement to balance the ration.

While adding antibiotics to barley doesn't increase the nutritive value of the grain, it does improve the general health and welfare of the animals—so they gain faster. Results of station experiments follow:

Ration	Avg. Daily Gain Lb.
Barley	1.48
Barley plus 20 mg. procaine penicillin per ton of feed	1.67
Barley plus 20 mg. Aureomycin hydrochloride per ton of feed	1.99

Pelleting is the big news in processed barley. Dr. Oldfield suggests pelleting is more beneficial with lower quality, higher fiber grain than with high quality rations. Also, a major advantage of pelleting is reduction of feed wastage by animals. Tests with pelleted barley are as follows:

Ration	Avg. Daily Gain Lb.
Barley in meal form	1.44
Pelleted barley	1.58

Western Grain, Feed Builds Membership

DES MOINES, IOWA — A new membership campaign has been adopted by the board of directors of the Western Grain & Feed Assn. of Iowa. Western recently merged with Feed Institute and the special offer applies to all new members who sign up before the annual convention is held in Des Moines on Nov. 20.

A goal of 1,200 members has been set by the directors. The special offer entitles individuals to a $10 membership for the remainder of the dues year (April 1).

A new dues structure will go into effect on April 1, according to a Western bulletin. It will be designed so that all firms will pay in proportion to their size.

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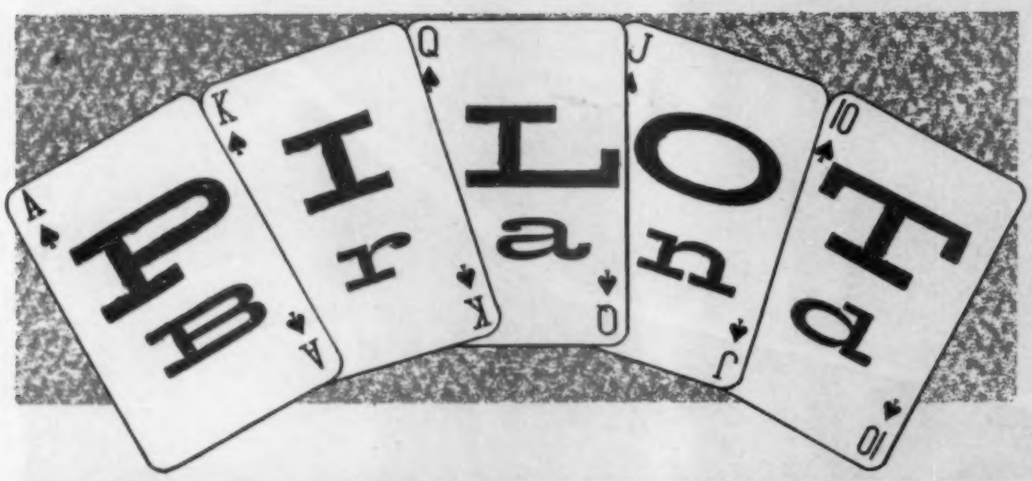

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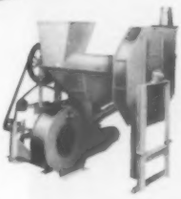

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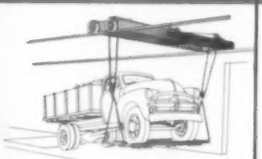
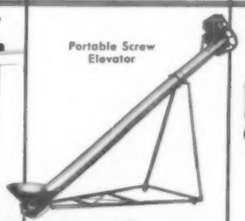
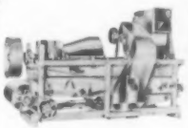


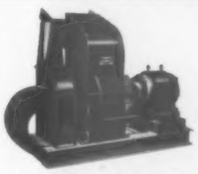
Electric Truck Hoist cuts handling costs



Portable Screw Elevator



Combined Sheller-Cleaner



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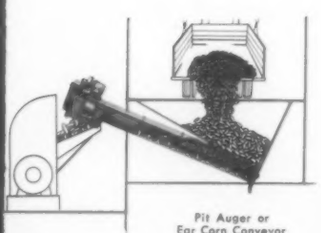

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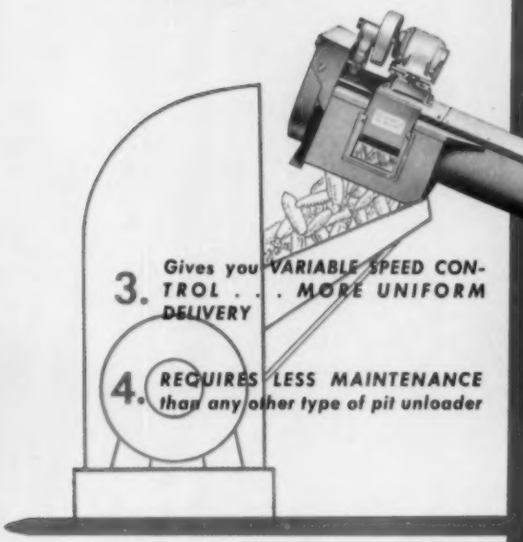

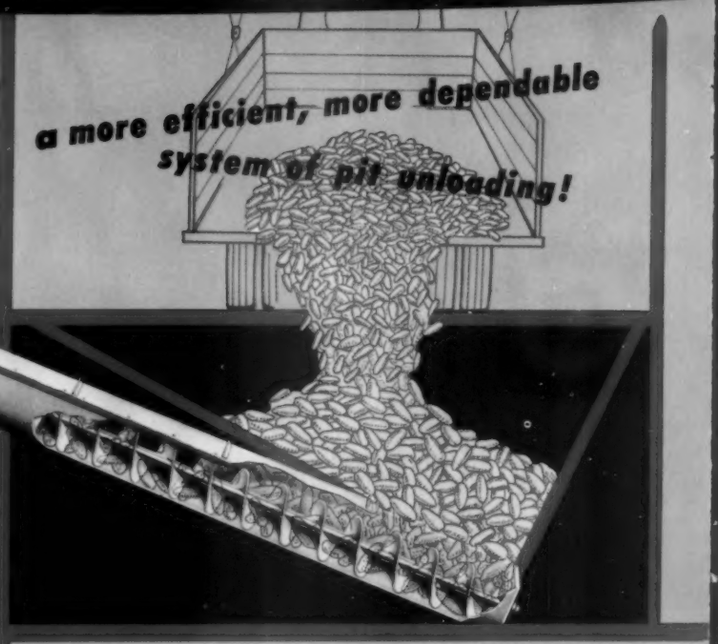

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SELLIN' SAM **By Jim Zilverberg**

"Don't tell me they put you back in dog food!"

Indiana Feed Sales Down 4% in 1959

LAFAYETTE, IND.—There was a 4% decrease in the total tonnage of commercial feed sales in Indiana during 1959; the average price was practically the same as 1958. From the quarterly tonnage reports and the sale and exchange of Indiana State Chemist tags and labels, it is estimated that 1,376,914 tons of feed with a retail value of $129.753,288 were sold in Indiana during 1959.

That compared with 1,435,426 tons of feed valued at $134,911 625 in 1958.

Approximately 85% of the total tonnage for 1959 represented commercial feeds of the 600 feed distributors on the "reporting system" and 15% consisted of commercial feeds of feed distributors on the "official tag" system.

The total tonnage does not include feeds registered under the annual fee method of registration which covers products sold in packages or containers of 5 lb. or less. In 1959, 318 brands —mostly canned and dry dog food— were registered by the annual fee method.

Although the tonnage figures are down from 1958, the figure is greater than that for 1957 when tonnage was 1,212,443 and dollar value estimated at $110,243,859.

Estimated Sales of Commercial Feeds in Indiana

Kind of feed	Estimated tons 1958	Estimated tons 1959	Estimated retail value, dollars 1958	Estimated retail value, dollars 1959
Ingredient Feeds:				
Alfalfa products (meal and leaf meal)	25,928	19,844	1,685,320	1,395,033
Animal products (meat scraps, tankage, etc.)	22,159	18,334	2,348,854	1,791,232
Brewers distillers products	7,402	3,958	537,385	252,520
Corn products (hominy feed, germ meal, gluten feed, etc.)	25,172	13,405	1,444,873	718,508
Cottonseed meal	6,827	3,893	570,054	332,851
Linseed oil meal	2,880	2,627	254,880	243,786
Marine products (fish meal, crab meal, etc.)	3,615	2,655	604,066	442,058
Milk products (dried and condensed buttermilk, skimmed milk, whey, etc.)	7,637	5,653	1,170,752	915,786
Molasses*		17,531		750,327
Oat products (oat shorts, oat hulls, oat meal, etc.)	18,098	12,445	1,094,929	679,497
Soybean oil meal	84,999	60,357	6,765,920	4,611,275
Wheat and rye products (wheat bran, middlings, rye feeds, etc.)	41,294	29,066	2,428,087	1,677,108
Miscellaneous (beet pulp, peanut oil meal, citrus meal, bakery refuse, etc.)	32,760	22,862	2,063,880	1,776,377
Mixed Feeds:				
Calf feeds	9,464	10,200	2,195,648	2,062,440
Cattle, dairy and sheep feeds	140,146	134,963	11,730,220	11,755,277
Horse and mule feeds	2,642	2,778	214,002	219,462
Poultry feeds (mash, pellets, etc.)	393,386	342,220	36,624,237	31,621,128
Poultry feeds, medicated	151,856	185,814	15,315,971	18,371,890
Poultry scratch grains	5,565	3,864	455,217	218,770
Small animal and pet feeds (rabbit, dog, etc.)	28,519	30,193	3,456,503	4,377,985
Swine feeds	334,448	345,075	34,046,806	35,886,873
Chop (corn and oats and misc. chops)	5,561	4,706	344,782	271,066
Medicated stock feeds	47,056	40,078	5,402,029	4,488,736
Mineral feeds	19,154	21,222	2,011,170	2,470,241
Unclassified	18,858	24,771	2,146,040	2,423,062
Totals	1,435,426	1,376,914	134,911,625	129,753,288

*Molasses included in miscellaneous prior to 1959.

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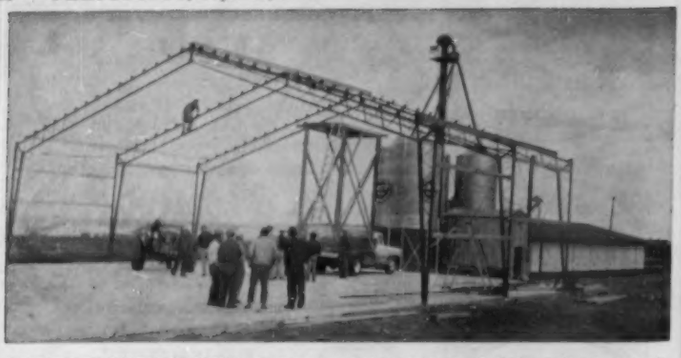

UNDER CONSTRUCTION—Going up next to bulk feed station (background) are new store and warehouse at Clear Lake, S.D. Four more steel feed tanks are to be added to bulk storage facilities.

30 South Dakota Egg Producers In Contract Program

By Al P. Nelson
Feedstuffs Special Writer

A contract labor egg production plan is operated by Lakeview Hatchery, Watertown, S.D., a distributor for General Mills, Inc. The hatchery also has stores at Clear Lake and Milbank, S.D. Currently the firm is erecting a new bulk feed station and a new store at Clear Lake, according to Oscar Nygaard, president of the company.

There are 30 egg producers in the contract plan, with a total of about 66,000 layers, all Hylines. Mr. Nygaard reports that within a short time layers in the program will total about 100,000, and weekly egg shipments are expected to reach 1,400 to 1,500 cases.

Lakeview furnishes the chicks and the feed to the egg producers on a fee basis. General Mills owns the birds and markets the eggs to a large supermarket organization.

General Mills also furnishes medication and flock service. The egg producer furnishes housing, equipment, labor and utilities.

NYGAARD BROTHERS—Oscar Nygaard (left), owner of Lakeview Hatchery at Watertown, S.D., and his brother, Al, manager of the hatchery's store at Clear Lake, stand beside stack of Larro (General Mills, Inc.) feed used in their contract program.

Payments to Producer

The producer is paid 1¢ per pullet per week up to 24 weeks of age. Then he is paid 6¢ doz. for grade A quality eggs produced, with a possible 1¢ additional per dozen for feed efficiency.

Producers all use the same uniform feed. They must have an egg cooler and put eggs in storage the same day as laid. To qualify for the contract labor plan the producer must have a flock of at least 1,000 layers. Some producers have from 6,000 to 7,000 hens.

A few of the egg producers are planning to erect new laying houses. These will be 40 by 160-ft. pole-type houses. The cost will be about $10,000 for the house and $5,000 for equipment. Producers will have these houses financed by banks, Production Credit Assn. or other accredited lending agencies. The houses also will have slatted floors and concreted gathering aisle areas.

"Quite a few egg producers like this plan," reports Mr. Nygaard. "They are guaranteed a specific labor return and the marketing is taken care of. It's a business-like way for a man to get into the egg production basis on a stable program. He is producing a quality egg for which there is always a demand."

To handle the feed and related supplies business connected with the contract plan, Mr. Nygaard is erecting a new 60 by 112-ft. store at Clear Lake. This new store will stand adjacent to a newly erected bulk feed station. At present there are four 27-ton capacity Butler steel tanks at the station, and eventually four more will be added.

Al Nygaard, Oscar's brother, is manager of the Clear Lake store.

The feed is received by hopper car, with a trackside receiving auger and an elevator leg doing the job. The bulk station is equipped with a 2-ton Howe scale hopper, and the automatic operation prints a scale ticket for the customer.

"Some farmers call for their bulk feed," reports Oscar Nygaard. "There's a discount of $5 ton from the bag price and a $2 ton discount when the farmer calls for his own feed at the bulk plant."

When the new feed and farm supplies store is finished, it will be equipped with a fork lift, so that bagged and other materials can be unloaded from railroad cars. All feeds are shipped in by rail over the Rock Island railroad.

The participation of Lakeview Hatchery in the contract plan is changing the hatching plans of the firm also, reports Oscar Nygaard. The firm hatches about a half million chicks a year. At the present time, the hatching schedule has been shifted to provide pullet chicks for flock replacement practically every month of the year.

"Such a program will provide egg producers with replacements whenever they want them," says Mr. Nygaard. "It will also mean the production of large, white quality eggs in adequate numbers for area markets most months of the year. Chicks hatched one season of the year only, often mean that the production of large white quality eggs comes within several months and often can depress the market. By better spacing of quality egg production, egg producers and others should derive more steady income from their efforts."

Outside Selling

While General Mills has a serviceman who visits contract egg producers every two weeks, the Lakeview Hatchery also has an outside salesman. This salesman calls on poultry, hog and cattle feed users and solicits feed orders based on customer requirements. This type of outside selling is paying off in greater sales.

The salesman also sells such items as small Butler feed storage tanks, poultry equipment, poultry and livestock remedies and other farm items. He keeps an inventory of the items which individual farmers need and concentrates on selling such selected items.

"One reason why outside selling is so important today," says Mr. Nygaard, "is that many large operation farmers are so busy they do not have time to come to town frequently. However, when a salesman visits them on the farm, the farmers often take time to discuss their farm needs and often make purchases."

When the new Clear Lake feed store and warehouse are completed, displayed merchandise will be three times greater than that in the present store. This greater display, and extension of farm supply lines, should result in greater sales, according to Al Nygaard, who has charge of this division.

Oscar Nygaard started in the feed and hatchery business in Watertown in 1940. As his business expanded he established stores at Clear Lake and Milbank, in S.D. These additional stores have provided an excellent outlet for sales of chicks and other farm supplies.

BULK STATION — Beside track stand four 27-ton Butler steel feed tanks. Under construction near this bulk station, which will eventually include four more tanks, are a new feed store and warehouse.

AUGER, ELEVATOR—Trackside auger and elevator used in receiving feed from hopper cars are shown here. These installations are part of new feed store and bulk station being erected by Lakeview Hatchery at Clear Lake, S.D.

COLLAPSIBLE—New "Flexi-Drum" collapsible plastic container (above), introduced by Highway Trailer Industries, for shipping of dry and liquid bulk commodities. The 800-gallon container, right, collapses like an accordion into 12-inch high self-storing unit at the left. Thin, disposable plastic inner liners are used to eliminate need for cleaning and make the same container usable for different products without danger of contamination.

Plastic Collapsible Container Announced

NEW YORK — A new collapsible plastic container, called the "Flexi-Drum," has been announced by Highway Trailer Industries, Inc.

The new containers will make it possible to carry grains in one direction, for example, and liquid chemicals in the same containers on the return trip without danger of contamination, according to David B. Charnay, chairman of the firm. As a result, he said, savings could be effected in shipping highly diversified cargo.

They are being introduced to the market in three sizes: 35 cu. ft. (250 gal.); 70 cu. ft. (500 gal.), and 105 cu. ft. (800 gal.). All sizes are 47 in. in diameter and collapse to 12 in. high. Tare weight ranges from 106 to 120 lb. Height ranges from 40 to 98 in.

Mr. Charnay described the key to the break-through as a plastic, disposable liner used inside a heavy-duty plastic body which can be handled by a conventional fork lift truck, hoist or crane equipment.

Ernest H. Doerpinghaus, the German inventor, says that by varying the type of liner, "Flexi-Drum" containers can be used interchangeably for such diverse commodities as oils, chemicals, greases, dairy products, milling products, juices, beverages, cement, plaster, paint products and fertilizers.

The cylindrical body of "Flexi-Drum" containers consists of molded, fiberglass-reinforced plastic top and bottom shells and flexible plastic-coated fabric sidewalls which collapse, accordion-like, into the top and bottom. The sidewall material is a newly-developed special composition called "Hi-Tex" fabric.

New Market Report

ASHEVILLE, N.C. — The market on commercial eggs in North Carolina is being reported on a statewide basis now. Informed sources here said the new report will represent prices egg handlers throughout the state are paying net to farmers on a grade-yield basis instead of prices for graded eggs as presently reported.

Basis for the statewide report will be: Prices paid producers for clean, unsized eggs delivered to nearby grading stations on a grade-yield basis, cases exchanged.

A spokesman said cities such as Asheville, Charlotte or Raleigh will not be reported individually as in the past. This change should help stabilize the egg market within the state and will cover more areas, it was pointed out.

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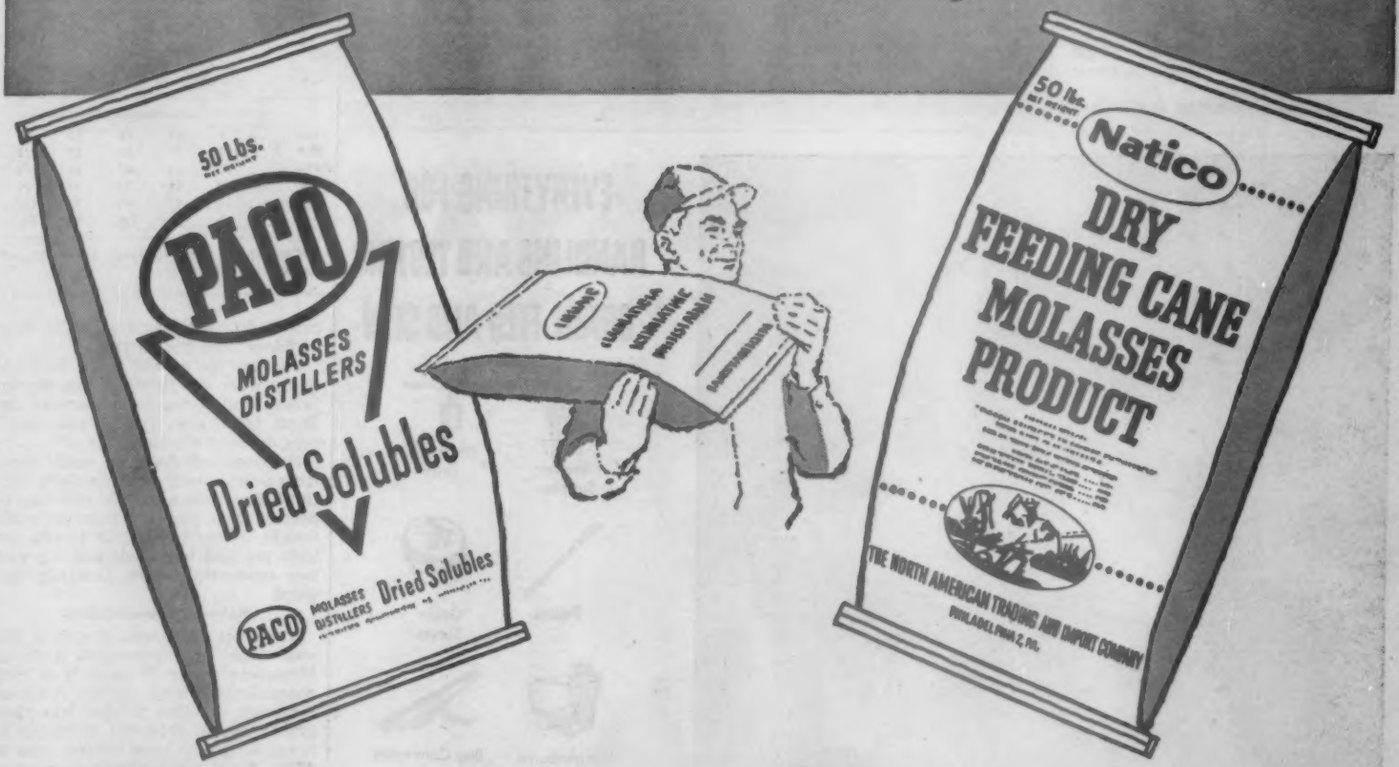

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Minnesota Report Notes Upward Trend In Feedstuffs Sales

MINNEAPOLIS — Sales of commercial feeding stuffs reported for both Minnesota and the U.S. for the 1949-1958 period show a marked upward trend, according to a report by Harold C. Pederson, department of agricultural economics at the University of Minnesota.

Mr. Pederson explains in the Minnesota Farm Business Notes bulletin that for Minnesota, average annual sales during the last four years of this period were up one-fourth over the first four years. For the U.S., sales during the past four years were up one-fifth.

The average number of grain-consuming animal units in the U.S. for each of these two periods was about the same, however.

In 1958, the percentage of different types of feeding stuffs sold in Minnesota, as seen in Table 1, was as follows: (1) 37% for poultry; (2) 19% for hogs; (3) 14% for dairy; (4) 23% as various milling by-products, soybean and linseed meals, animal by-products, and mineral mixtures; and (5) 7% as other miscellaneous feeds.

Groups 1 and 4 accounted for a higher percentage of the total in the earlier part of 1949-58 period; dairy and hogs, considerably less.

TABLE 1. Estimated Amounts of Commercial Feeding Stuffs Sold in Minnesota and in the U.S. by Years, 1949-58

Year	Minnesota*	U.S.†
	Tons of commercial feed used	
	millions	
1949-50 average ..	0.84	28.0
1951-52 average ..	0.91	33.6
1953	0.91	33.7
1954	1.01	35.0
1955	1.01	36.6
1956	1.00	35.7
1957	1.10	36.0
1958	1.25	40.0

*39th annual Feed Bulletin, State Dept. of Agri., St. Paul, Minn.

†American Feed Manufacturers Assn., Chicago 4, Ill.

Poultry Feeds

Commercial poultry feeds sold in Minnesota during the 1949-58 period increased in total (Table 2) even though the number of chickens kept for egg-laying purposes dropped considerably.

This drop, of course, was offset largely by an increase in the number of commercial broilers and turkeys. The most pronounced changes observed in commercial feeds used by poultry are: (1) the sharp decline in scratch feeds and miscellaneous poultry feeds and (2) the marked upward trend in concentrate mashes.

Dairy and Hog Feeds

There has been an upward trend in the sales of commercial feeds in this state for both dairy cattle and hogs since 1953 (Table 3). This has occurred when the number of dairy cattle dropped slightly while hog numbers came up a little.

The amount of calf meals sold actually went up 100% in this 6-year period. Dairy concentrates went up about 140% even though cow numbers declined slightly.

Hog numbers fluctuate much more from year to year than do dairy cattle; hence more variation may be expected from year to year in feeds bought. Nevertheless, the trends for both pig and hog feeds and pig and hog concentrates are definitely upward.

Sales of Concentrates

The most consistent growth in annual sales of commercial feeds in Minnesota in recent years is in feed concentrates. Dairy, pig, and hog concentrates together totaled less than 37,000 tons in 1949, but increased at a rapid rate to over 250,000 tons in 1958. In the same period, poultry mash concentrates increased from 51,000 to 130,000 tons. Other large increases are observed during this same 10-year period in turkey mashes, up from 55,000 to 111,000 tons, and soybean oil meals, up from 46,000 to 80,000 tons.

TABLE 2. Estimated Amounts of Different Kinds of Commercial Poultry Feeds Sold in Minnesota by Years, 1949-58

Year	Scratch and others	Chick starting and growing	Egg laying	Turkey	Concentrates
	Mashes				
	thousands of tons				
1949-53 ...	39	78	122	67	74
1954	41	78	136	97	117
1955	12	59	113	63	162
1956	11	60	140	57	115
1957	11	48	97	69	178
1958	12	107	106	110	131

TABLE 3. Estimated Amounts of the Different Types of Commercial Feeds Sold in Minnesota for Use by Calves, Dairy Cattle, Pigs and Hogs, by Years, 1953-58*

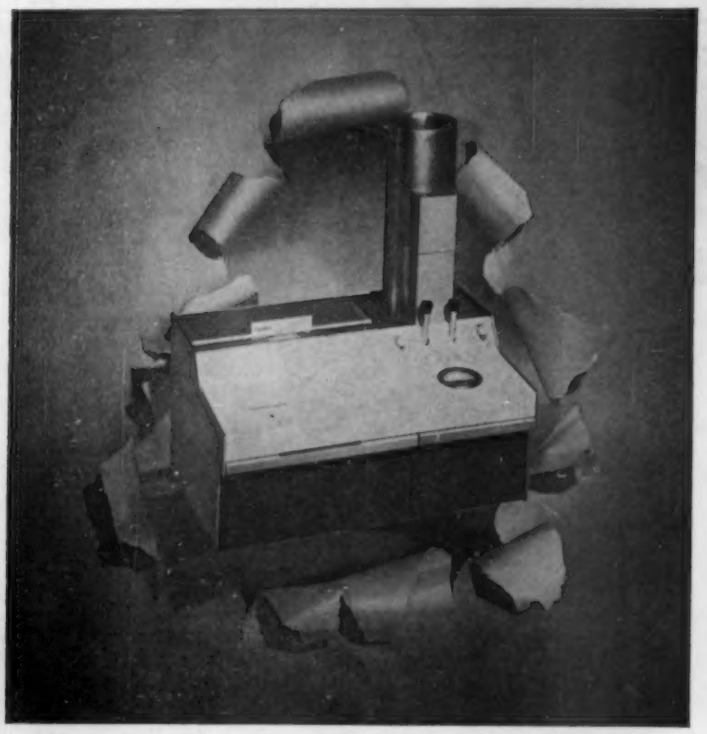
Year	Calf meals	Dairy Feeds and rations	Dairy Concentrates	Pig and hog Feeds	Pig and hog Concentrates
	thousand tons				
1953	8	49	42	50	55
1954	9	44	65	53	78
1955	11	46	83	56	102
1956	10	41	73	39	73
1957	14	55	99	56	117
1958	16	43	110	95	141

*Calf, dairy and hog feeds were grouped together prior to 1953.

Pesticide Problem Told

EL PASO, TEXAS—The El Paso Valley and New Mexico dairymen are reportedly becoming more and more concerned over the contamination of alfalfa and other feed crops from drifting insecticides. The chemicals are used to control pests in cotton and other crops.

John J. Durkin, extension entomologist at New Mexico State University, said: "It is the responsibility of farmers, no matter what they produce, and pesticide applicators, no matter what they spray or dust, to see that dairy cows and their feed and water do not become contaminated with chemicals that may eventually adulterate milk."



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Protein Levels For Laying Hens Studied at Utah

LOGAN, UTAH—"There are many factors that affect the protein requirement of laying hens," says Dr. Jay O. Anderson, Utah State University. "And when researchers know more about amino acid requirements, it will be easier to adjust protein levels."

Some factors listed by Dr. Anderson that influence protein requirements include quality of the protein, total weight of eggs produced, body weight of the hens, energy level of the diet and environmental temperature.

Studies reported by Dr. Anderson explain that not all of the factors which determine the amount of protein required are completely understood.

A large egg will contain from 6 to 7 gm. of protein. If a hen consumed 110 gm. of feed per day—or about one-fourth of a pound—only about 6% protein would be required in the diet if it could all be converted to egg protein with 100% efficiency, the study showed.

However, feed protein is not as high in quality as egg protein and the hen requires some protein for body maintenance. Some protein from the feed would not be assimilated by the fowl, and some would be oxidized.

These factors all increase the requirement above the quantity actually required just to produce the egg. But exactly how much is needed is not known.

The requirement for dietary protein is really a requirement for the amino acids which make up the protein, according to the study. It was learned that the laying hen requires for egg production essentially the same amino acids required by the chick for growth, but in different proportions.

"It seems possible that good egg production might be maintained with relatively low protein diets if the protein contained the proper amino acids," said Dr. Anderson.

At Utah State University, researchers have been experimenting with rations in which grains provide essentially all the protein. Rations containing from 92 to 94% of a mixture of wheat and barley have been used. The vitamin and mineral supplements made up the other 6-8% of these diets.

Egg production among hens fed such a high grain diet was about 55% during the six-month experiment. The birds lost body weight and required about 5.5 lb. of feed per dozen eggs.

Dr. Anderson's calculations indicated that lysine and methionine would be the most limiting amino acids in such a diet.

Researchers tried adding combinations of these two amino acids to a high grain diet. Performance of the birds seemed to be slightly improved by the addition of certain combinations of the two amino acids, but it was not as good as that of hens fed a diet with added protein supplements.

Replacing only 3% of the grain with soybean, meat or fish meal produced a marked improvement in performance. With this amount of protein supplement added, the rations contained about 12-13% protein and the hens performed fairly well. However, hens fed on higher protein levels did even better.

While hens fed rations with 13-14% of good protein may do fairly well under certain conditions, it was not felt that protein levels this low should be fed to commercial laying flocks.

"When researchers know more about the amino acid requirements of the laying hen, it will be possible to feed such protein levels to commercial layers," said Dr. Anderson.

For the present, the report concluded, a level of about 16% is suggested. About one-third of this should come from good quality protein supplements such as soybean, meat and bone, and fish meal.

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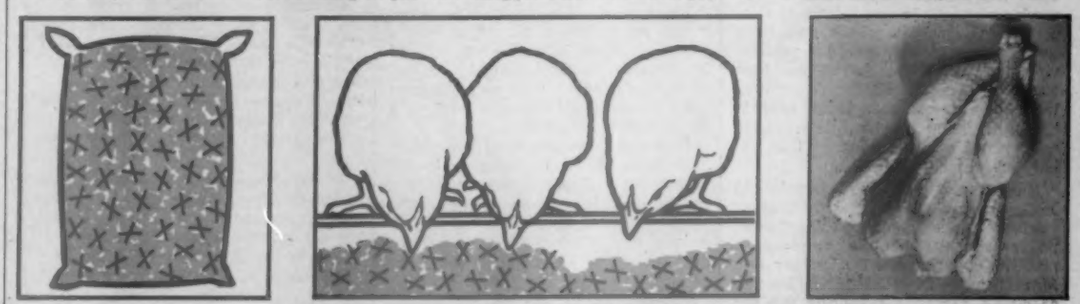

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PINCH HITTING FOR PROTEIN

• • •

By Dr. U. S. Garrigus
University of Illinois

Various sources of nonprotein nitrogen are in use or are being evaluated for use in ruminant rations.

Farm rations, especially items such as low-quality hays, straw or cobs, are often deficient in protein and for this reason are poorly utilized as feeds unless they are supplemented. The oil meals can be used satisfactorily, either singly or in combination, to increase the protein in such rations. At times, however, oil meals are scarce and high priced—as they were during World War II.

Americans were not the first to conceive of ruminant utilization of nonprotein nitrogen, but they were the first to put the idea to work on a commercial scale. (This measure conserves oil meals for use of simple-stomached poultry and swine.)

With our increasing populations—livestock as well as human—there will be a need for even more protein production and conservation in the future. Compounds which might "pinch-hit" for protein are continually under consideration.

How ruminants use nonprotein nitrogen—As we know, all animals must have protein (along with other nutrients) for maintenance, production, and growth. In 1891, Nathan Zuntz (12), a German nutritionist, suggested that rumen flora (microorganisms) played a role not only in cellulose utilization by the ruminant but also in the ruminant's utilization of nitrogen.

Ruminants (sheep, cattle, goats, et cetera) have digestive systems that consist of a built-in "fermentation vat," the rumen, where bacteria can work on roughage and relatively simple chemicals (like urea) and from these raw materials produce protein, vitamins, and other substances that the animals need in order to perform well. This phenomenon is not new. It has been going on since deer, sheep, cattle, and other ruminants first inhabited the earth.

Background research—Armsby in 1911 (5) reviewed the experimental evidence concerning the utilization of nonprotein nitrogen. He referred to positive experiments by Kellner and Morgan using ammonium acetate and crediting bacterial synthesis for the nitrogen utilization. Armsby concluded, however, that "pending further evidence, it would seem to be the part of safety to consider that ordinarily not enough of the nonprotein is converted into protein (by bacterial action or otherwise) to make it of any material significance for the production of milk protein (and probably, therefore, of protein tissue)." Mitchell and Hamilton (29) reviewed the research in this nutritional area in 1929 and Krebs (23) in 1937.

Research yielding positive results on the utilization of nonprotein nitrogen in America began shortly before World War II. It was first reported from the University of Wisconsin (17, 18, 36) and shortly thereafter by researchers at the University of Illinois (19, 20, 22) at the University of Massachusetts (3, 4) and at Cornell University (24). These experiments showed that significant amounts of urea nitrogen could be substituted for protein nitrogen in ruminant feeds with resulting growth and/or milk formation.

Since these studies, much research involving the utilization of urea has been undertaken throughout the world. Results have frequently been variable and seemingly difficult to interpret. Much of the variability has been due to short intervals of feeding and poorly balanced rations.

A study of all of these reports tends to clarify some of the confusion regarding the utilization of nonprotein nitrogen. The following observations now appear to be substantiated:

1. Urea, being very soluble and easily hydrolyzed to ammonia by the enzyme, urease, must be utilized by rumen bacteria for their own growth as it becomes available if it is to be economically useful. (Ammonia not utilized by bacteria is readily absorbed into the blood stream and eventually excreted.)

2. The bacterial protein produced in the rumen contains all of the essential amino acids known to be needed by the ruminant (25).

3. The ration with which urea is fed greatly influences its relative use by the rumen bacteria. Starches together with more complicated carbohydrates are superior to sugars. Bacteria will utilize readily soluble proteins to the detriment of urea utilization if such proteins are fed in adequate amounts. Available minerals may also greatly influence maximum urea utilization (1, 32, 33). (The mineral requirements of rumen organisms are not well known and other minerals may well play a part in improving the utilization of nonprotein nitrogen (10, 31, 35).)

4. Relatively high concentrations of urea are safer in a fattening ration than in a maintenance ration (16, 33) and are more efficiently utilized when self-fed than when hand-fed at long time-intervals (8, 9, 33).

5. Stilbestrol seems to enhance nonprotein nitrogen retention and to reduce the time required for a ruminant to adjust to the new source of nitrogen in its ration (6, 26, 34).

Using urea—Urea is the most commonly used "pinch hitter" for preformed protein in ruminant rations. It contains relatively large amounts of nitrogen (46%). One pound of urea contains as much nitrogen as 7 to 8 lb. of a 40% oil meal.

It can be manufactured from such raw materials as coal or gas, air and water, but it does not contain the energy, minerals, or some other nutritionally useful substances which an animal obtains from an oil meal. (In general, other sources of nonprotein nitrogen are similar in this respect.)

Limitations in the use of urea—1. Urea improperly used can cause death losses (15). (However, urea has been successfully used at the University of Illinois to furnish 92% of the ration nitrogen for growing-fattening lambs and has permitted the reasonably normal performance of one-third pound gain per day for 70 days (33).)

2. Urea-containing rations require an adjustment period before the ruminant makes its best utilization of the ration (26).

3. Urea is so rapidly absorbed that the relative amounts used and conditions under which it is used tend to be limited (8, 9).

Specifications for the use of urea—The Association of American Feed Control Officials and the American Feed Manufacturers Assn. have provided the following guide for registration and labeling of urea-containing feeds:

"Urea and ammonium salts of carbonic and phosphoric acids are acceptable ingredients in proprietary cattle, sheep, and goat feeds only; these materials should be considered adulterants in proprietary feeds for other animals and birds; the maximum percentage of equivalent protein from nonprotein nitrogen must appear in the ingredient list.

"If feed contains more than 3% of urea, or if the equivalent protein contributed by urea exceeds one-third of the total crude protein, the label shall bear: (1) A statement of proper usage; and (2) the following statement in type of such conspicuousness as to render it likely to be read and understood by ordinary individuals under customary conditions of purchase and use—WARNING: This feed should be used only in accordance with directions furnished on the label."

Improving nonprotein nitrogen utilization—A great opportunity for improvement in the utilization of nonprotein nitrogen by ruminants lies in the combined use of more than one nonprotein nitrogen compound. Such a combination should permit nitrogen to become available in the rumen in more even amounts and over a longer period of time than is presently true with urea alone.

In this belief, research workers at the University of Illinois have conducted considerable experimental work with that objective. Some potential compounds for accomplishing this are not presently economically feasible. However, there is a compound which has given promising results.

Biuret—Biuret is a condensation product of urea. Biuret, being much less soluble than urea and apparently not being affected by the urease activity in the rumen, may release its nitrogen at a slower rate than does urea.

Research on biuret might be briefly summarized:

● Toxicity. Sheep have been drenched with more than twice as much biuret (21) as the amount of urea which has been reported to be lethal to a 500-pound steer (15) without permanently ill effects. Its low toxicity to ruminants is substantiated (7).

● Metabolism Studies. After determining that biuret was relatively nontoxic, metabolism studies were run with lambs (21). It is interesting to note that at a low level of twice-a-day feeding the biuret-containing ration performed relatively better than did the urea-containing ration. At a high level of feeding twice-a-day, which approached self-feeding, the urea performed well as would be expected (Table 1). Other similar studies have been conducted with cattle and sheep which indicate that biuret nitrogen is reasonably well utilized (14) and (21). Biuret, however, requires a greater adaptation of the rumen flora than does urea (11) as shown by nitrogen balance studies with lambs which were inoculated with rumen liquor from sheep that had been on either a relatively high urea or high biuret-containing ration for a long time. The time interval for relatively complete adjustment seems to be from 30 to 40 days (26). There is also evidence that the digestibility of dry matter and of crude fiber is lowered, at least initially, in a biuret-containing ration (14, 21, 26).

● Fattening, Growth and Reproduction. It has also been shown that weight gains and efficiency of utilization of feed were significantly increased for growing-fattening lambs receiving additional nitrogen (basal 7.13% crude protein) in the form of either urea, crude biuret, biuret or soybean oil meal (28).

Ewes and wethers have been self-fed rations (basal containing less than 5% crude protein) in which more than one-half of the ration nitrogen was provided either by urea or by biuret for a period of 593 days. The average gain for this period, including weight of wool shorn was 150.9 lb. for the sheep on the urea-supplemented ration and 150.2 lb. for the sheep on the biuret-supplemented ration (21). Only one sheep was lost during the feeding period and this was after 17 months. Although the cause of death was not definitely determined, urea toxicity was suspected as it was believed that the sheep had overeaten the ration after a few hours of interruption in self-feeding. Ewes on both rations produced apparently normal lambs which were conceived, carried, and nursed while their dams were on the experimental rations.

Biuret appears to be tasteless and is more readily consumed when fed at high levels than is urea which seems to make feed unpalatable at comparable levels.

Projected problems and provisions—Continued study of biuret would seem to be needed and warranted: nutrient requirements of biuret-utilizing bacteria; varied urea-biuret com-

TABLE 1. Metabolism Study with Lambs Using Urea, Urea-Biuret or Biuret as the Added Source of Nitrogen When Fed Twice Daily at Two Different Levels*

Level of feeding	Average daily nitrogen intake gm.	Apparent digestion coefficient of nitrogen %	Nitrogen gm.	Balance %†
		"Urea" ration		
Low**	12.6	75	0.25	2.6
High***	18.4	74	3.12	22.8
		"Urea-biuret" ration		
Low**	12.0	70	0.98	10.5
High***	17.9	70	3.95	31.6
		"Biuret" ration		
Low**	10.9	62	1.65	24.3
High***	14.4	66	2.87	28.1

*Lambs were fed 300 grams of ration twice daily on low level and 450 grams of ration twice daily on high level (six lambs on each treatment).
†Nitrogen balance as a per cent of apparently digested nitrogen.
**Lambs generally consumed all feed offered shortly after feeding time.
***Lambs generally ate feed periodically during most of the interval between feedings thus approaching self-feeding.

Dr. U. S. Garrigus

AUTHOR—Dr. Garrigus is a professor of animal science at the University of Illinois. He earned his B.S. degree at the University of Connecticut in 1940, M.S. at the University of Illinois in 1942, and Ph.D. at Illinois in 1948. Dr. Garrigus is a member of the American Society of Animal Production, Sigma Xi, Phi Kappa Phi, Gamma Sigma Delta, Lambda Gamma Delta, Phi Sigma, sheep nutrition committee of the National Research Council, and research committee of American Dehydrators Assn.

binations, and reasons for lowered dry matter digestibilities in biuret-containing rations.

The use of biuret in range supplements and dairy cattle feeds might well be investigated. It is quite possible that a different ratio of urea to biuret might be optimum for daily range supplementation than for twice-a-day feeding.

If biuret is to be used commercially on a large scale, then industry must be able to supply it at prices not too greatly different than those of urea.

Pinch hitting potential—Biuret now is a potential product for extending the use of nonprotein nitrogen in ruminant rations since it has been shown not to be either acutely or cumulatively toxic to sheep or cattle, is consumed readily, and is apparently better utilized than is urea when the interval between feedings is relatively long, as in range supplementation or in twice-a-day feeding of cattle or sheep.

It would seem that a combination of urea and biuret may prove superior to either alone under the above conditions. Small amounts of biuret in feed urea may well be carrying their full load in providing nitrogen supplementation to ruminants.

Biuret offers promise of increasing the flexibility and consequently the amount of nonprotein nitrogen used in ruminant feeds.

v v

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(Turn to PROTEIN, page 37)

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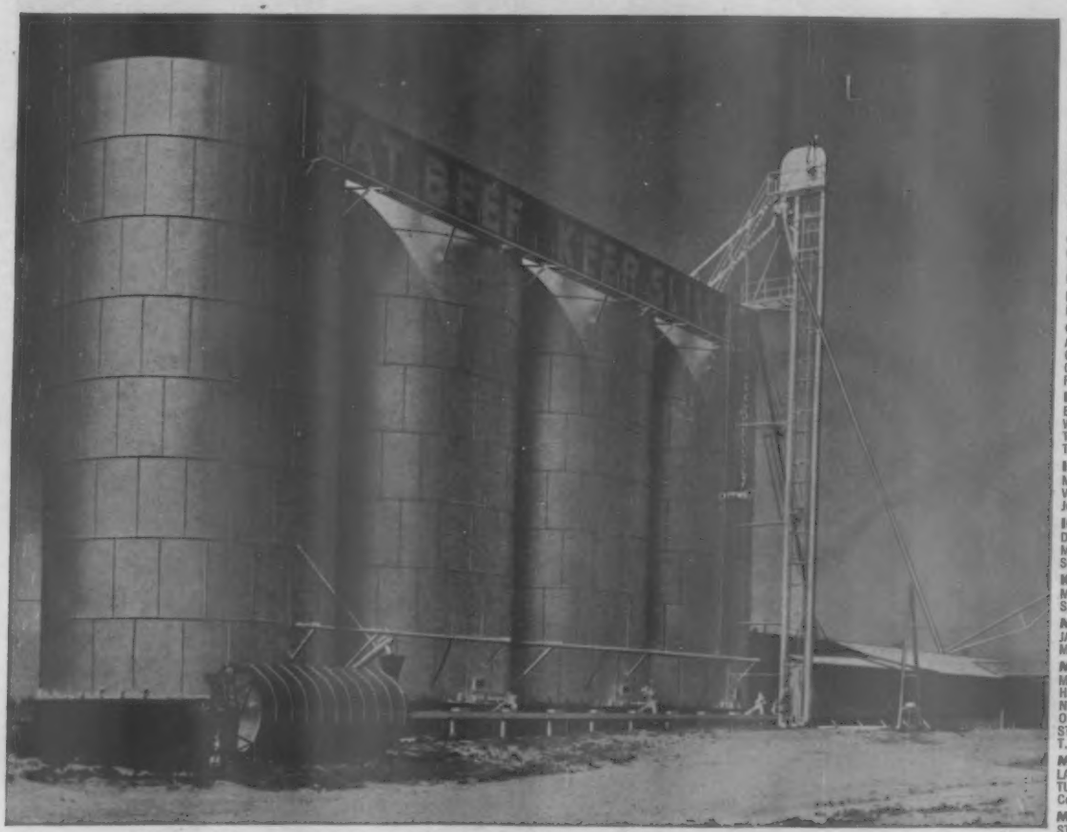

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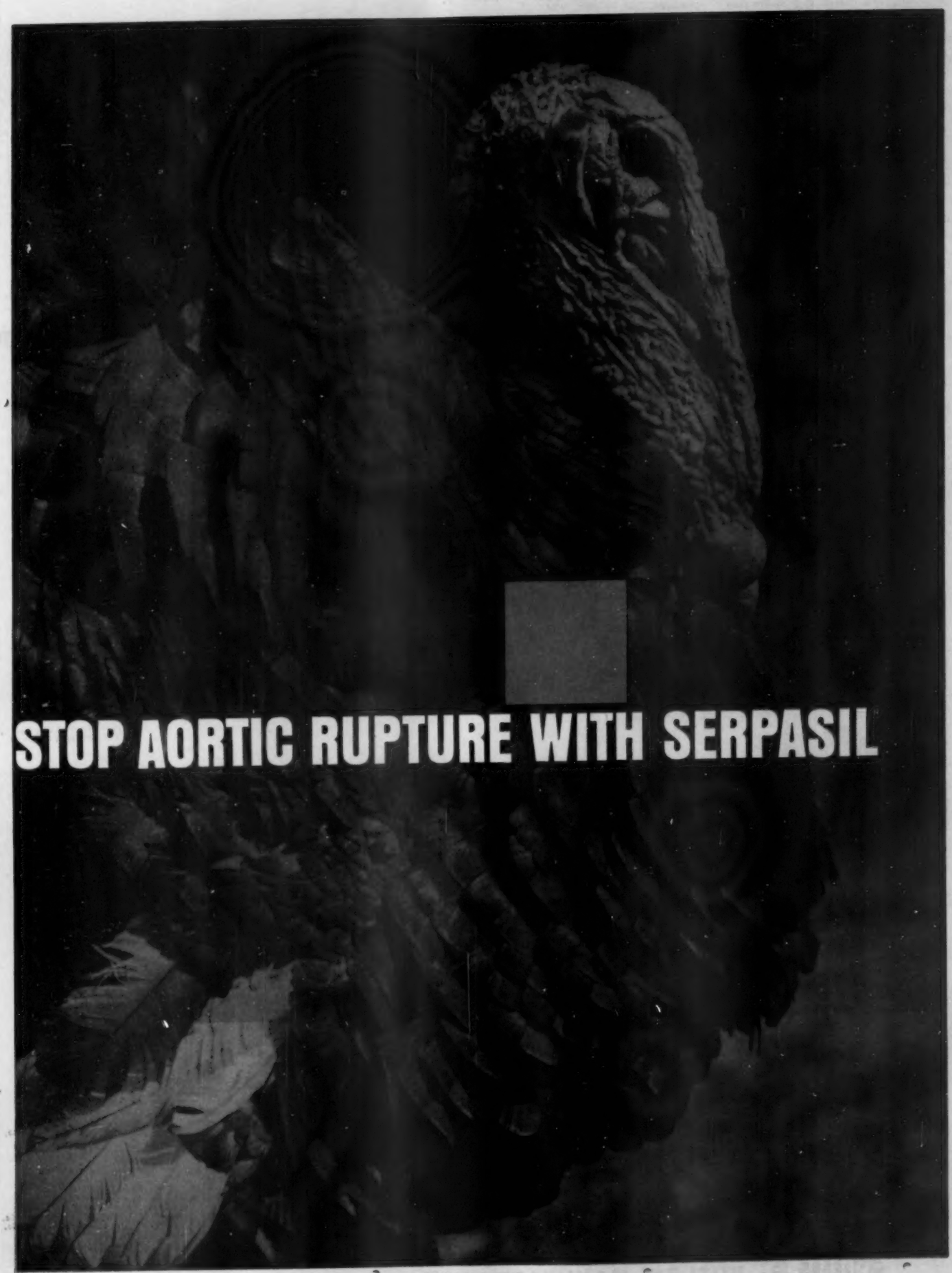
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12	10	
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JOE BROOKS

BY AL P. NELSON

Service Means Many Things

It was toward the end of the day when a chunky, well-dressed supply salesman came into Joe Brooks' office carrying a big sample case.

"Hello, George," said Joe warmly. "You're thinner than last trip."

The salesman grinned, patting his sizeable stomach. "Took off five pounds last month, Joe. But, man, do I have a struggle passing up that banana cream pie every day." He hesitated, then asked, "Joe, I see two of your mobile mill competitors parked outside near the molasses storage tank. You buying them out?"

Joe shook his head. "No, they're in here for molasses."

"You sell them molasses?"

Joe nodded, clasped his strong hands behind his head. "Sure, why not? I sell them a great deal of molasses, and at a profit. They come here regularly. And they pay promptly."

The salesman laughed. "Well, it struck me as strange for a moment—you making it easy for competitors to buy molasses. If you didn't sell it to them, they'd have to put in their own storage."

"And I wouldn't make the sales of molasses," Joe said. "I believe in getting all the business I can from competitors—at a profit."

"I suppose it's all right," said the salesman. "Most dealers wouldn't do it, though."

"Maybe not." Joe said earnestly. "But, George, if I have my business well organized, no competitor is going to hurt me just because I sell him something at a profit. If he doesn't buy molasses from me, he'll get it someplace else. If I withhold molasses, that won't drive my mobile mill competitors out of business. Shucks, we have even helped each other out on grinding deals during breakdowns. And none of us tries to take away such customers on emergency deals. But if a farmer wants to change mobile mills as a business proposition on a regular basis, for other reasons, he can and none of us kick. We're all pretty busy."

Code of Ethics

"Sure, I can see that," said the salesman. "Each of you mobile mill owners scrambles for the business, but you've got a code of ethics, and you cooperate for mutual benefit. I've got to tell that story to other dealers."

The door to the office opened, and Milt appeared. "Farmer X, a new man out on route 4, sent in his man with grist and his own favorite brand of concentrate. The hired man says his boss doesn't want our concentrate or any other, only brand M."

"Okay, we'll take it," Joe said. "Service is our motto, you know."

"Just wanted to check with you," Milt said. "Later on, I'll give him the works on our own concentrate, too."

Joe turned to the salesman. "We've got a number of these cases now and then, George. Some farmer moves in from far away. He's been used to some other brand of concentrate, and he wants us to grind and mix for him. He asks us and we let him bring in his concentrate. We grind and mix for him, and eventually try to win him over to our own brand."

"How does it turn out?"

Joe chuckled. "Well, we get most of these fellows. They get tired after awhile of going someplace else—maybe a feed store with no grind and mix facilities—and buying concentrate there and hauling it to us. The new farmer begins to know us and our service. Maybe he learns to like us, too. We talk our concentrate to him on a soft sell basis. Later on, he decides to switch and save time and hauling. We win a lot of customers that way."

"And if you refused in the first place to grind for him and mix in concentrates he bought elsewhere, you might never have a chance to get him for a regular," said George.

Joe nodded. "That's right. Here we advertise and do almost anything to try to get the attention of a new customer. Well, by using the concentrate which the farmer brings to us, we're advertising, too. We're saying that we're willing to cooperate with him."

"Ive been in lots of feed mills where owners turned down farmers on deals like that," said the salesman. "In some instances where they did allow such deals, they charged an extra 20¢ cwt. for mixing concentrates purchased elsewhere."

"We don't," Joe said. "We want the farmer's good will. Not enough of them want deals like this. But we can sometimes get 5 to 10 new customers a year in this manner. When I see a farmer's mind is made up on using another brand of concentrates, I accept his business on a challenge basis. And I come out ahead, even if some get away."

The salesman read a sign on the wall. "You do custom pelleting, too, eh?"

Joe nodded. "I know some dealers shy away from it. But here, too, there is a chance for service. We don't

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make money on custom pelleting, because most are short runs. But we convert many of these custom boys over to our formulas later on, which we produce on long runs. Then we make money. With our grain bank plan this works out all right."

"I can see you are service minded," the salesman went on, "and that builds good will. Many mill owners who would not mix another brand of concentrate, or custom pellet will haul grain from a farm, grind and mix it and haul it back again—all for a small charge. Some lose money on such deals, and yet they condemn other good-will building."

"Service is what the farmer wants today," Joe said thoughtfully. "I extend lots of service to farmers. But my service is the kind where we have a chance to convert the new customer over to our regular service on a more profitable basis. We are very conscious of our service costs. We charge quite a bit for hauling grain in. And our mobile rates are quite high. You can't afford to run profit-losing service on a long term basis. But these short-time deals, like custom pelleting and other brand concentrate grinding, are different. At least they have been with us."

The salesman smiled. "Joe," he said, "I always learn a lot about the feed business every time I visit with you. When I discuss your feed operation ideas with other customers, they look at me as if to say, 'That fellow knows something about feeding.' Can I take you out for a cup of coffee?"

"Sure," said Joe genially, "but no pie."

The salesman looked at his bulging stomach and grinned. "That's right, Joe. No pie."

Seek Poultry Lab

SALISBURY, MD.—A move is underway in Congress to establish a poultry research laboratory in Maryland to serve the Delmarva Peninsula, according to a recent report. Two bills have been offered to the Congress that would authorize $900,000 in federal funds for the laboratory.

Under these bills, the laboratory would probably be set up in the Salisbury area, and the cost of operation would be paid by state and local agencies.

The bills were submitted by Rep. Thomas F. Johnson (D., Md.) and Sen. J. Allen Frear, Jr. (D., Del.). The laboratory would perform research in poultry diseases, breeding, general management and related problems.

Discuss Methods to Cut Feeding Costs

RENO, NEV.—Methods of cutting feeding costs for Nevada dairymen were discussed at a recent meeting of the Douglas County Dairymen's Assn. at Minden.

Two University of Nevada experts who spoke were: William V. Neely, extension economist, and James Schuh, extension dairyman.

Mr. Neely listed three steps dairymen can take to cut feeding costs: substituting home grown feeds for purchased hay; substituting grain for hay, and feeding cows according to milk production.

The economist said dairymen can afford to pay twice as much for corn as hay, 1.54 times the price of hay for light weight barley, two times the price of hay for common barley, 1.85 times the price of hay for oats, 1.95 times the price of hay for milo and 1.85 times the price of hay for 16% protein dairy mixture. These figures are based on energy content of the various feeds.

Mr. Schuh said that 1 lb. of barley or milo would replace 2 lb. of hay. At present prices of hay and barley, he showed how 14¢ daily could be saved in feed for a 1,200 lb. cow producing 50 lb. of 3.5 butterfat milk.

RECEIVES TROPHY—Dr. George F. Godfrey (left), Honegger Breeder Hatchery, Forrest, Ill., receives a trophy for the hatchery's award winning Honegger Layers in the third Tennessee Random Sample Test completed earlier this year. Making the presentation is Ralston R. Hannas on behalf of the American Poultry Journal. Presentation was at the annual American Poultry & Hatchery Federation convention held in Memphis. Honegger Layers were ranked first in income over feed and chick costs of $3.14 per pullet housed during the 560-day test, two months longer than most of the U.S. tests.

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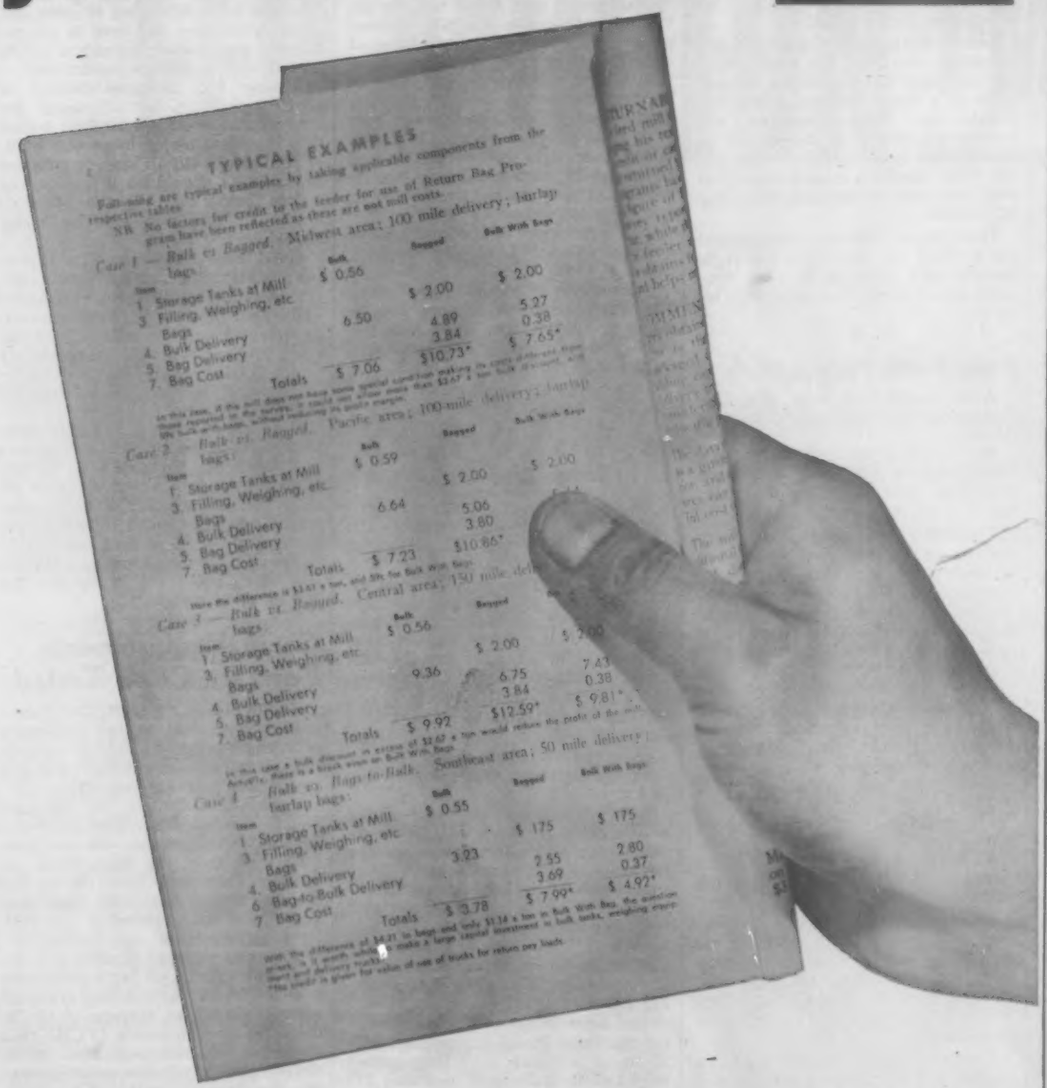

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Poultry Feed Mill Opens in Arkansas

MOUNTAIN VIEW, ARK.—Ray Rowland, president of Ralston Purina Co., St. Louis, was the major speaker at the opening of the J. K. Southerland Mountain View, Inc., a large, modern poultry feed mill and service center Aug. 20 here. Jack Street, vice president, and other national and regional company representatives also attended.

J. K. Southerland, Batesville, who is manager of the Southerland enterprise in a tri-county area of north Arkansas, explained that the purpose of the modern mill is to provide complete service for about 50 heavy-scale broiler producers who live within a 15-mile radius of Mountain View. He explained that several of the leading broiler farms in the entire area are near this mountain town and provide enormous numbers of chickens for the J. K. Southerland Processing Plant at Batesville.

Buddy Bolin, who formerly lived in Batesville and has been associated with the Southerland interests, is general manager of the new feed mill and poultry service center. Danny Ray Crymes is the mill manager.

Golf, Bowling Event Slated in California

FRESNO, CAL. — The California Hay, Grain & Feed Dealers Assn.'s annual golf and bowling tournament will be held Sept. 22 here, according to Leo L. Johnson, executive secretary. The tourney is sponsored by the low San Joaquin district of the organization.

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Feed Storage, Handling

A North Dakota agricultural engineer suggests that a feeder adapt any new grain storage facilities to serve as part of his feed handling arrangement.

To do this, says Arthur H. Schulz, the feeder should start by carefully locating his storage so an auger feed assembly will permit him to feed directly into his grinding or rolling equipment.

Large-sized hopper-bottom bins can be bought. These bins are more expensive than flat bottomed bins, Mr. Schulz notes, but they do provide an easy method for adapting grain storage to feed grinding and handling installations, and may be worth considering on some farms.

Reasonably priced sweep-type auger unloaders, also available, will give a flat-bottomed bin all of the advantages of a hopper-bottomed bin, Mr. Schulz says. These sweep-type unloaders are placed in the center of the bin and automatically empty the bin. They require a special auger and boot that must be installed before the bin is filled.

Unloaders of this type are designed for a round bin, but there are some feeders who have found that they work satisfactorily in a square wooden bin.

◆

Dairy Profit Factors

What factors are most important in developing a highly profitable herd of cows.

That question was asked of 56 Illinois dairymen who have had herds producing over 500 lb. of butterfat for at least one year.

Feeding: When asked about feeding by the University of Illinois, all of the dairymen said good-quality roughage was a major key to top production. To get high-quality roughage, many of the dairymen used either hay crushers of barn driers. Others made grass silage out of first-cutting alfalfa.

Practically everyone also listed good pasture management. All fed grain while cows were on pasture, and several fed hay. One dairyman said he fed corn silage the year around.

The grain rations were made up primarily of corn and oats with some protein supplement. Total protein content of the winter rations fell within a 12-15% range.

Management: Several of the dairymen said it was hard to single out specific management practices they felt were most important. However, most of them thought special attention to little details paid off in higher production.

Several singled out such items as regular milking times, giving cows a 6- to 8-week dry period each year, getting cows bred back to calf in 12 months and growing out the young stock well.

Others mentioned gentle handling, providing comfortable quarters with plenty of bedding and analyzing records for intelligent culling, feeding and breeding.

Breeding: The dairymen stressed the value of a sound breeding program to get a high herd average. Such items as choosing heifers from the best cows, developing good-transmitting cow families and using well-bred sires in both natural and artificial service received most of the credit for the outstanding performance in their herds.

When the discussion turned to herd health, one dairyman said that, without a healthy herd, good feeding, breeding and management were fruitless. Several dairymen stressed the advantages of correct and rapid milking to control mastitis.

Others said that freedom from Bang's disease and breeding troubles were major keys to their success in the dairy business.

◆

Extra Poultry Income

Poultrymen may find it to their advantage to consider the sale of dried poultry manure as another means of adding to their income, suggests John Bezpa, extension poultry specialist at Rutgers University.

There are some homeowners who would like an opportunity to buy such a fertilizer if it were available and packaged in such a manner that it would not mess up the trunk of their car.

Poultry manure is a good fertilizer and has an analysis of approximately 3-6-4.

It should be dried and lumps broken into small particles. Manure can be dried by keeping it in small piles under cover and turning it frequently.

Keeping it in these small piles for several months will in most instances dry it out sufficiently so that it can be sacked.

◆

Lean Hogs Best Gainers

Recent U.S. Department of Agriculture tests show that lean hogs can gain more rapidly and efficiently than fat ones.

This information proves that swine growers can produce meatier carcasses without sacrificing feedlot performance. Many hog producers have wondered whether this was possible, explains a University of Illinois livestock specialist, G. R. Carlisle.

In the tests, USDA workers started with one group of Duroc hogs. When these hogs weighed about 175 lb., their backfat thickness averaged 1⅛ in.

From these hogs, workers selected a line noted for high backfat thickness. They also selected another line noted for low backfat thickness. Then they raised four generations of the hogs.

By the fourth generation, the lean hogs, with a low backfat thickness of 1.25 in. weighed 35 lb. at weaning. They gained 1.58 lb. daily until reaching 175 lb.

The other hogs, with a high backfat thickness of 1.8 in., weighed only 30 lb. at weaning. And they gained only 1.47 lb. daily until reaching 175 lb.

◆

Uniform Hog Plan

At no time is a sound feeding and management program more important to a producer's pigs than during the breeding and gestation period. M. A. Kirkeide, North Dakota Agricultural College extension livestock specialist, says, "This is the time when sound management practices can spell the difference between breaking even and making a profit."

The Nutrition Council of the American Feed Manufacturers Assn., as a result of an intensive research study, has adopted several uniform management recommendations for gilts and sows. They are based on the judgment of nearly 200 authoritative sources, including the nation's land grant colleges, experiment stations, the U.S. Department of Agriculture and the feed manufacturing industry.

Here are some of the management recommendations adopted by the association:

"Gilts to be retained for the breeding herd should be separated from the market herd at 150-175 lb. They should have at least 12 well-developed teats. Gilts should be at least 8 months old and weigh near 250 lb. before they are bred. Worming of sows and gilts before they are bred is recommended and sanitary measures should be followed to prevent reinfection."

Among the recommendations is that of flushing, or increasing the feed intake by sows 7-10 days before breeding, and maintaining this higher feed level until all sows or gilts are bred. Boars should be 8 months old before being used in the breeding herd. An adequate exercise space should be provided.

Hand feeding of sows and gilts during gestation is generally recommended, so greater utilization of pasture and other desirable roughages can be attained and the condition of the cows and gilts can be more closely watched. Especially adapted bulky rations can, however, be successfully self-fed.

Bred gilts should gain about three fourths of a pound per day during pregnancy, Mr. Kirkeide says. Mature sows should gain about one half lb. daily. On the average, 6 lb. of good ration will accomplish this. Gilts require up to 2 lb. of feed per 100 lb. liveweight per day, whereas a mature sow needs about 1½ lb. of feed per 100 lb. of liveweight.

Grain Requirements For Dry Cows Tested

KNOXVILLE, TENN. — Recent studies conducted at the University of Tennessee indicate that grain feeding of dairy cows during their dry period won't always pay off.

Researchers Dr. E. W. Swanson and S. A. Hinton say that, according to their experiments, the resulting milk yield from the cows won't pay for the grain and labor. When dry feeding period has paid best, they say, it was with limited or low-quality roughage feeds.

The tests involved 40 pairs of cows, and were carried on for a three-year period. In 30 weeks, the grain-fed cows produced an average of 320 lb. more fat-corrected-milk (FCM) than those fed only roughage. Most of the difference in production occurred during the first 15 weeks of lactation, report the scientists. It took 307 lb. of grain to get the extra 329 lb. of FCM, so unless milk is worth substantially more than grain, dollar returns would be small.

Quality of the roughage available can have a lot to do with whether or not the cows need a grain ration during the dry period.

Cows in medium to good condition when turned dry should continue to gain about 1 lb. a day until calving. If they can do this on roughage, then grain feeding may be undesirable, the scientists said.

FEED LOT FEEDING TRIAL PROVES:

CATTLE GAIN MORE AT LESS COST, WHEN FED MORTON T-M SALT

Photo courtesy of Denver Post

Average more than 9 lbs. extra gain per head at a saving of $1.34 per cwt. of gain during 109 day trial at Monfort Feed Lots, Inc., Greeley, Colorado.

How the feeding trial started. On July 23, 1959, Mr. Kenneth Monfort agreed to make a comprehensive divided lot test comparing Morton Trace-Mineralized Salt and plain salt. From a shipment of good quality Angus heifers received from San Saba, Texas (averaging about 550 lbs.) Mr. Monfort had 146 placed in lot #67 and 148 in lot #70.

For a period of forty-three days before the actual test was to start, all 294 cattle were fed identical rations with plain salt.

After 43 days the test began with the cattle being weighed up. The cattle in lot #67 remained on plain salt while the cattle in lot #70 received Morton T-M Salt instead. All other feeds were identical. The average daily ration consisted of 9 lbs. silage (green chop silage and silage out of pit), 16 lbs. grain mixture (approximately 10% dried beet pulp, 35% corn and 55% milo), 1½ lbs. dehydrated alfalfa and 1 lb. of shorts pellets with stilbestrol.

At the end of the feed lot trial on December 8, both lots of cattle were weighed out and feeding costs were calculated. The T-M fed cattle in lot #70 registered an average extra gain of 9.26 lbs. more than the cattle in lot #67 which were fed plain salt! What's more, the cost of gain for lot #67 was $19.97 per cwt. compared to $18.63 per cwt. for the cattle fed Morton T-M Salt in lot #70! The savings with Morton T-M were a profitable $1.34 per cwt. of gain!

The cost of feeding Morton T-M Salt for the entire 109 day test was less than 17¢ per head more than the cost of feeding plain salt for 109 days! For an extra 17¢ per head for Morton T-M, the Monforts saved $1.34 per cwt. of gain and got more than 9 lbs. of extra gain per head. Figure it out for yourself how much more you can make feeding Morton Trace-Mineralized Salt!

"This divided lot test sold us on the value of Morton T-M Salt. Using these test results, believe that we couldn't afford to feed cattle plain salt, even if we got it free."

Kenneth Monfort

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- Birds reach peak production sooner after laying begins.
- Birds lay more eggs throughout the laying season.
- Birds maintain higher production longer in the laying period.

*Caused by Terramycin-susceptible organisms

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New High in Molasses Imports Likely; Cuba Still a Prime Source

A new high in imports of molasses is a likely prospect for 1960—if shipments to the U.S. continue at the same rate as that recorded so far this year.

Imported molasses—for both industrial and animal feeding uses—during the period Jan. 1-June 20 totaled 244.5 million gallons, according to data compiled by the U.S. Department of Agriculture (Feedstuffs, Aug. 20). That figure is an increase of 62% over the 157 million gallons imported during the same period in 1959.

Reports indicate that the U.S. is also exporting more molasses this year than last. June's export total was 2.7 million gallons, a big jump from the May total of 200,000 gallons and about twice the 1.4 million gallons exported in June of a year ago.

Although import and export data is available on total molasses volume, an accurate determination of imports, exports and stocks of molasses used in feed is currently out of reach because feeding molasses is a residual item computed at the end of the year.

USDA explains that the volume of molasses used in feed is calculated by subtracting molasses used in alcohol plants and distilleries and other industrial plants from total mainland molasses supplies—without considering changes in stocks.

Consequently, there is no way of measuring now any molasses stockpiling which may have been caused by the uncertain situation in Cuba—nor is there available now any data to show what effect, if any, lower prices this year have had on consumption of feeding molasses. It can be assumed, only, that there has been some increase in consumption due to molasses prices which each month this year have averaged 3-4¢ gal. below those reported for the same month a year earlier.

What Is Known

However, USDA does know: Increased imports will more than offset any decrease in shipments from the territories; mainland production should be about the same as last year, and supplies, based on imports through May, will be larger this year than a year earlier.

Utilization of all molasses last year totaled 546 million gallons—5% less than in 1958 and 16% less than the record 648 million gallons used in 1953. USDA reported in February that 78% of the total molasses used in 1959 went for livestock feed. Although the volume of molasses used for feed—425 million gallons—was not a record, the percentage used for this purpose was an all-time high.

On the basis of what is now known, some observers believe feed use of molasses will be about the same or a little more than last year.

Our government's attitude toward the political and economic confusion in Cuba apparently has had no restrictive effect on molasses imports from Cuba, which normally supplies more than half of the molasses imported by the U.S. Total molasses imports from Cuba so far this year already are considerably above the 88.7 million gallons imported during all of 1959.

It should be noted, however, that last year was an off year for Cuban molasses imports. Cuba shipped only about 89 million gallons to the U.S. in 1959, a sharp contrast when compared with the 188 million gallons shipped to us in 1958. Cuban imports totaled 117.5 million gallons in 1957; 232.3 million in 1956, and 232.7 million in 1955.

Although restrictions have been placed on shipments of sugar to the U.S. from Cuba, there is no limitation on imports of molasses into this country, USDA explains, unless it contains less than 6% nonsucrose solids, in which instance it would become subject to the liquid sugar quota.

Market Egg Shortage

RALEIGH, N.C.—Carl H. Tower, head of the poultry and egg section, North Carolina State Department of Agriculture, reports that market eggs are in short supply through the state. "People got caught short on layers," Mr. Tower said. "The shortage of table eggs will continue for about six months, until chicks now being put in begin to lay."

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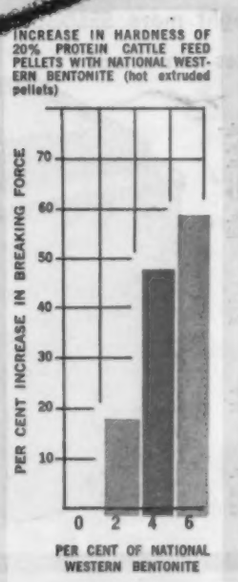

The accompanying chart shows the increase in pellet hardness with varying percentages of NATIONAL Western Bentonite included in the feed formula.

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NEW HOME—This new building being completed by Vale Grain & Feed Co., Vale, Ore., has a form of built-in fire insurance. It is of almost fireproof pumice block construction.

Oregon Firm Erects Fireproof Building After Total Fire Loss

By Jess Blair
Feedstuffs Special Writer

The Vale Grain & Feed Co., Vale, Ore., is hoping to profit from a disastrous fire that destroyed just about everything, including most of the firm's records.

"This time we're building back with thick pumice blocks," said Hilton Clark, manager and co-owner. "Those blocks are fireproof except in tremendous heat, and all our files will be kept in a fireproof safe."

When the feed mill and store burned down about two years ago, Mr. Clark was out of business nearly a year, then moved into an old warehouse and gained back most of his customers.

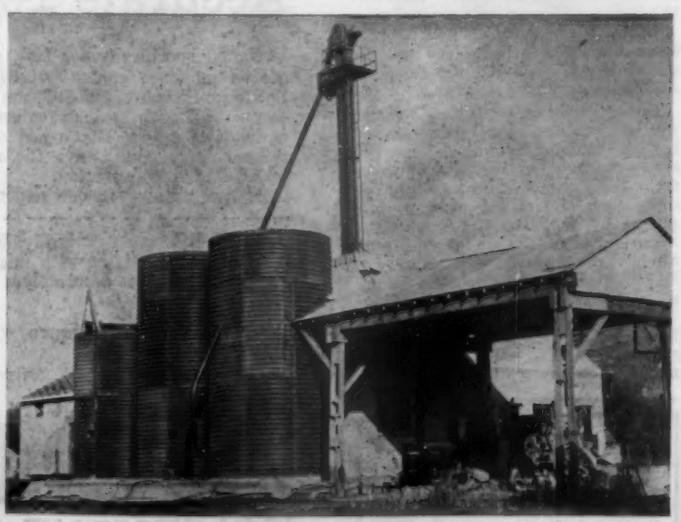
The new plant is being used now but not everything will be entirely finished for several months yet. The building has 8-in. walls of pumice blocks and has outside dimensions of 45 by 80 ft. in a rectangular shape.

It is divided into three rooms—a milling room 22 by 30 ft. in size, a feed storage room 45 by 50 feet and the farm store which will be 23 by 30, with a small office taken out of this.

"We drew many plans before deciding upon the one used," said Mr. Clark. "We wanted a compact mill and a structure where unnecessary steps could be saved. A mill owner must manage closely if he expects to make a profit, and just one extra employee or other expense can make a difference."

In addition to Mr. Clark, there are three men employees and a girl who is bookkeeper and will help in the farm store. Mr. Clark is planning to

EXTRA PROFITS—Hilton Clark, co-owner and manager of Vale Grain & Feed Co., Vale, Ore., finds a farm store can bring extra profits in a general farming and feeding area. In this firm's new building now nearing completion, the farm store will occupy a place of importance second only to the milling operations.



STORAGE TANKS—These storage tanks will give the Vale Grain & Feed Co. ample storage for grain and feed. Ingredients will come in by rail and truck.

add a bulk delivery truck within the next few months and this may require another employee.

The milling room is built for comfort as well as efficiency. In the basement are the grinder and furnace. Heat from the furnace is distributed throughout the milling room and farm store. There is also a small shop in the basement where chain saws are sharpened.

The mill has 10 overhead working bins with a capacity of about 14 tons each. In converting farm grain into finished feed, the mill receives the grain through an outside grate; it is lifted by bucket elevator to the working bins, then flows down to a Jay Bee grinder in the basement, or into a J. J. Ross roller mill which is just being added. After going through the mixer, feed is sacked off or can be sent into outside bins or to a waiting bulk truck, though the truck will not be added for several months yet. Mr. Clark will also have ample storage for holding grain and other ingredients.

The mill has a distributor and cable head and will be mostly automatic. The main labor in its operation will be sacking feed.

"We are going bulk as fast as possible," said Mr. Clark, "but this is a diversified farming area and customers say they can't afford bulk facilities for chickens, cows and hogs, particularly where they have just a few of each.

Specialization Expected

"Eventually, however, we can expect specialized farming here, because already farmers are beginning to stress one type of poultry or livestock and increase the unit size."

Mr. Clark built back most of his business after moving to the old warehouse. During the year he sold over 1,000 tons of feed for a national feed manufacturer, did a thriving business in custom grinding and mixing and ran up a large volume in livestock and poultry supplies, farm chemicals and irrigation products.

"Dairy feed is our number one item," said Mr. Clark, "so we are adding a Strong-Scott molasses unit to make a complete feed, though we will also take the farmer's grain and mix it with a supplement to meet his specifications."

The Vale Grain & Feed Co. was established in 1948, at which time the firm was a general feed business. Farm and livestock supplies were added later and the business was gradually enlarged until the fire.

Farm Store Profitable

"We plan to put in a lot of work on the farm store," he said. "We have found it quite profitable in this small farm area. The man who buys dairy feed is also in need of irrigation pipe, fertilizer, binder twine, milking machine equipment and sanitation items. So instead of trying to reach customers a long distance from here, we find it more profitable to sell each farm family more of the things it needs."

Mr. Clark intends to retain possession of the warehouse where the business has been located the last year. One end will be used for cleaning clover and alfalfa seed and the other will serve as storage for fertilizer.

Cargill Contracts for Toledo Modernization

TOLEDO, OHIO—Awarding of a contract for "about a million dollars" to continue modernization of the Cargill, Inc. 2-million-bushel export grain elevator here was announced by the firm.

Lee-Emmert, a contracting firm headquartered in Richardson, Texas, was the accepted bidder.

The contract includes five 95-ft. steel loading towers and high-speed belt conveyors to move grain within the elevator, from elevator to dockside and for 340 feet along the row of towers. The loading equipment, all of it remotely controlled, will be able to spout 50,000 bu. an hour into holds of the largest lake and ocean vessels able to operate in the St. Lawrence seaway.

H. Robert Diercks, vice president in charge of Cargill's grain division, said the elevator will be able to load a cargo equal to Chicago's recently established record—600,000 bu. corn put on the ore carrier C. L. Hutchinson this month at Cargill's port installation in as little as 12 hours. He noted that the Hutchinson is 624 ft. long, and that dock frontage at Toledo will be approximately 900 ft.

Mr. Diercks, whose firm leases the Toledo elevator from Northwestern Mutual Life Insurance Co., Milwaukee, said additions of new equipment and removal and replacement of old will make the export unit "one of the fastest, most modern and most efficient in the seaway system." Work is slated for completion by March 1 of next year, in time for re-opening of the shipping season.

EAT MORE EGGS—Farming areas in California are being dotted now with sign boards like the one shown above. The signs, sponsored by the Ralston Purina Feed Co., are intended to promote the consumption of California-produced eggs.

These champions of many breeds were produced with "feed urea"

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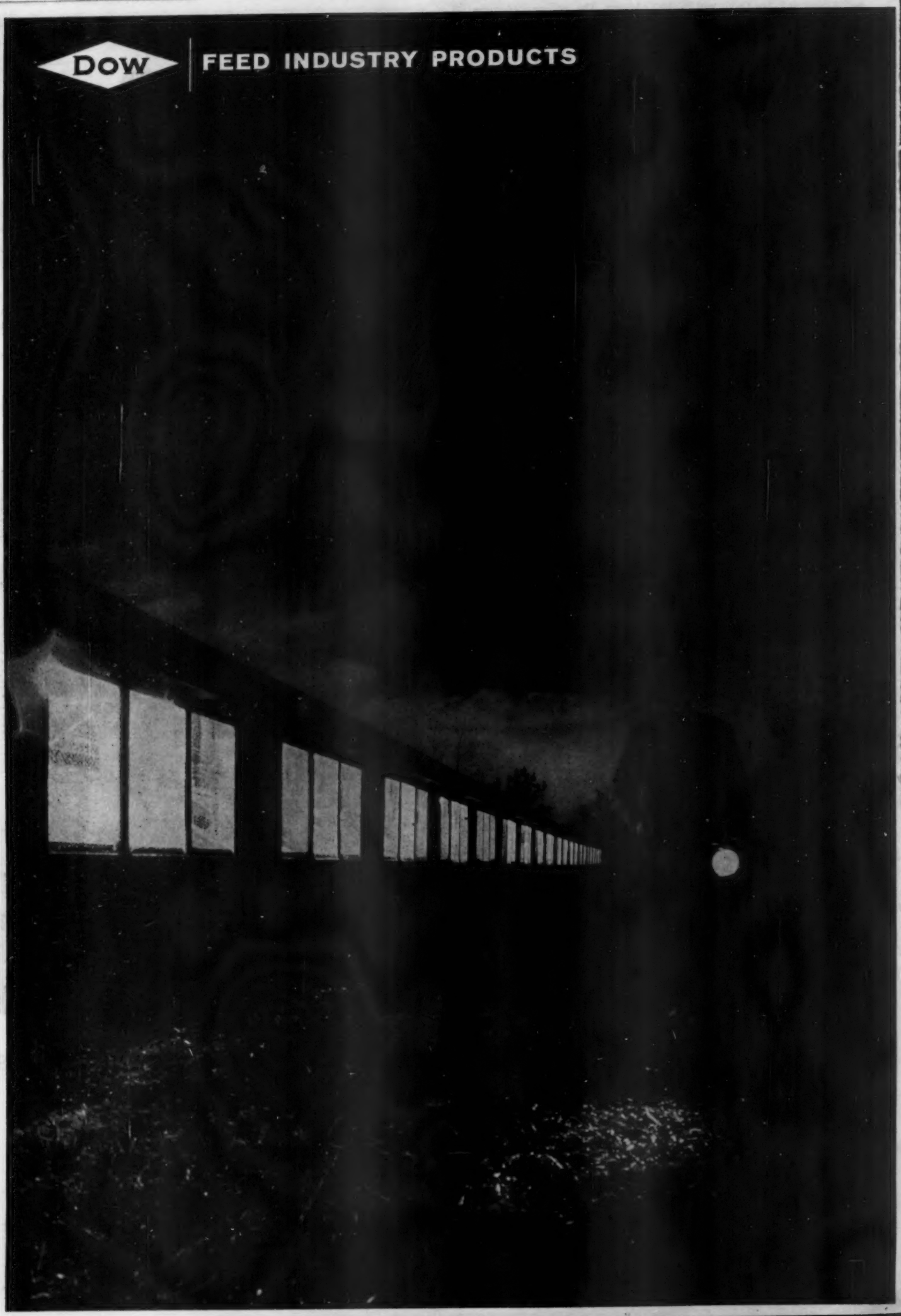
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What's more, Zoamix causes no physical injury if accidentally fed to laying flocks or farm animals. It's compatible with common feed ingredients, drugs and additives . . . does not require a withdrawal period before marketing . . . and won't impart any "off" flavors to the meat! Feeding Zoamix results in no change in histology, hematology or organ weights. Assaying is speedy, simple. Zoamix can be pelleted and repelleted, will not cake or lose potency even when stored for prolonged periods.

These combined advantages have led many leading feed manufacturers to switch to Zoamix. How about your brand? Write for full technical information and registration assistance to Feed Industry Sales Section, Agricultural Chemicals Department.

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MIDLAND, MICHIGAN

Feeder Pig Business Booms; Small Farm Operators Build Up Volume

By JAMES K. RUTTER
Feedstuffs Staff

The feeder pig business seems to be beyond the "infant" stage now. It was only recently that this highly-specialized method of pig production started receiving large-scale acceptance, but it has already become a thriving segment of the nation's swine industry.

Defined simply, a feeder pig is an animal that is farrowed on one farm, and then moved to another for finishing. Some people have said the idea would never catch on . . . or that it won't last.

In an effort to provide more information on feeder pig activities, Feedstuffs has contacted specialists all over the nation. Here are some findings on the growth the business has enjoyed the past few years and the future one might expect for it.

Dr. Robert Grummer, department of animal husbandry at the University of Wisconsin, has followed the development of the feeder pig industry carefully. The Wisconsin Feeder Pig Marketing Cooperative is probably the largest organization of feeder pig producers in the nation.

"This business is just getting started," says Dr. Grummer. "In fact, I suspect that in the future, over half of all the pigs slaughtered annually will come from feeder pig producers."

Dr. Grummer predicts that a "belt" will take shape in a few years around the surplus grain producing states in the Midwest.

"The pigs will be farrowed in this 'belt' and shipped into the grain areas for feeding to market weight," he says. "Other areas of the nation are moving to the production of feeder pigs, and increasing numbers substantially, too. But the biggest volume of hogs will still be concentrated around the midwestern states.

"It appears to me that more and more Corn Belt farmers are wanting to eliminate the demanding job of pig farrowing. If a good product can be made available in steady supply, there is an excellent future in the feeder pig enterprise."

Dr. Kenneth Egertson, agricultural economist at the University of Minnesota, agrees with this thinking.

"Many Corn Belt farmers have a limited labor supply and maximum feed grain supplies," he says. "Since a fattening operation takes less labor and makes good use of feed supplies, it seems logical that this specialized trend toward feeder pigs will develop more rapidly in the future."

Potential in South

The southern states have potential in the feeder pig industry, too. Many of these farmers are already producing a respectable volume of feeder pigs for both in-state sale and export.

"With lower building and operation costs, I feel certain the southern farmers can more than successfully compete with the corn belt producers of feeder pigs," says Harold V. Clum, extension livestock marketing specialist at the University of Georgia.

"We think it will be possible for hog producers in Georgia to apply some of the techniques learned by the poultry industry to feeder pig production . . . then, they certainly will be able to compete."

This growth of the feeder pig industry seems to go hand-in-hand with the swine specialization now occurring over the nation. Farmers who stay in the hog business during the coming years will be skilled specialists. They may have the complete package on their farms . . . where they breed, farrow and feed to market weight. Or they may turn to feeder pigs and become even more specialized in that they handle only one phase—farrowing or feeding.

It's true that by intensifying the input into a single phase of the business, many hog producers can become more efficient, get more use from specialized facilities and perform a better job of management.

The feeder pig business fits nicely into smaller farm operations, too. In fact, that's where most of the pigs are coming from now.

Smaller operators seldom have a big volume of grain available that will allow them to feed many pigs to market weight. With feeder pigs, the animals are sold when they are from 8 to 10 weeks old, and there is very little grain invested.

"Pig Hatcheries"

A few years ago, many folks thought that "pig hatcheries" were the answers to a specialized hog industry. A number of these pig production plants sprung up in several midwestern states. There are few remaining now, though, and the bulk of the feeder pigs still comes from small farmers.

Dr. Herbert M. Barnes, extension livestock specialist at Ohio State University, explains that the trend in Ohio is toward the development of small feeder pig enterprises as sideline or supplemental sources of income.

"It seems logical that this trend should continue," points out Dr. Barnes. "The smaller producers can better handle the detailed production chores, and the isolation afforded by the smaller units provides a healthier situation than does intense concentration of population in large units."

So far, the problems of disease, management and marketing have kept the pig hatchery concept of feeder pig production from catching on. Dr. Barnes helps explain this:

"In Ohio, we have had, as have other areas, a few large hatchery operations. Managers of most of them soon found that when the volume grew large enough to provide all or a

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6 steps to more layer feed sales

1 **Take 12 minutes** to get complete facts on the new FPI program. That's all it takes to view a film which gives you the complete story on 1960's biggest Feed Promotion Idea.

2 **Show "Margin of Difference"** film to customers and prospects. Shows importance of setting goals, emphasizes need for good birds, good feed, good management. Tells how to whip **constant disease drag.**

3 **Identify your store** as the place to buy FPI layer feeds with this 28" x 44" poster. Offer the nf-180 continuous low-level feeding plan (FPI). National advertising will help presell your FPI feeds

4 **New service center** deserves display in your store. Promotes every nf-180 use . . . booster feeds, treatment for specific problems (turkeys and broilers, too), prevention and treatment of swine scours.

5 **Make records sell** by giving poultrymen new Flock Performance Inventory chart. Only one of its kind. Helps customers check flock performance against FPI goals . . . shows how nf-180 improves results.

6 **On-the-farm sales aid:** "figure-it-out-for-yourself" booklet sells poultrymen on your **full performance** feeds medicated with nf-180. Explains how to start pullets and producing birds on the FPI plan.

The new industry-wide Full Performance Index promotion now fully launched by Hess & Clark can have major impact on your layer feed sales. It gives you a sound, proven way to help your customers help themselves. And when your customers prosper, you prosper! The FPI campaign IS BIG . . . carries 65 million ad-page impressions, plus millions of radio impressions, to egg producers everywhere. This all-new FPI program promotes good birds, good feed, proper management . . . stresses the need for keeping all factors in balance . . . and gives poultrymen money-making full performance goals to shoot for. Get all the facts now from your Hess & Clark man or write Hess & Clark, Ashland, Ohio.

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Kraylets, the concentrated milk by-product pellets for hogs, builds bigger sales for you by helping your customers produce more pork per pound of feed. Farmers bring their hogs to market in record time by using Kraylets to supply the milk by-product nutrients their hogs need for sound, fast growth. And faster, more economical growth means added income for your customers and bigger sales for you when you stock and recommend Kraylets. Kraylets for hogs and Kraylets Plus 2 for baby pigs (fortified with antibiotics and B_{12}) are backed by powerful Kraft advertising and merchandising support. For greater profit, contact your Kraft Man today, or write our agricultural division.

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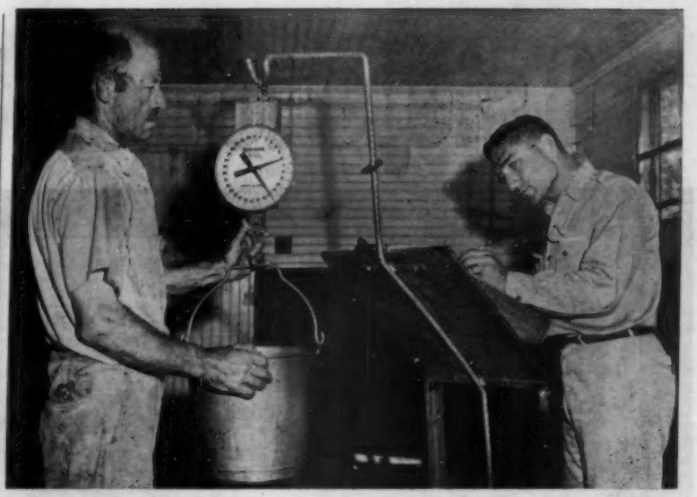

RECORDING MILK PRODUCTION—Extra grain helped increase milk production by an average of 2,000 lb. and as much as 7,500 lb. per cow annually in higher TDN feeding tests conducted among animals on 48 farms in the Northeast by Cooperative G.L.F. Exchange (Feedstuffs, Aug. 27). Here John Schutts (left), Flemington, N.J., dairyman, calls off milk weight figures to Frank Genova, G.L.F. specialist.

major part of the farm income, they had exceeded their capacity to handle the management and labor details. So they reverted to market hog production."

Quality of many lots of feeder pigs is still not as high as it should be . . . but some improvement has taken place. Farmers who are making a business out of feeder pigs by staying in production year after year are now spending more for their breeding stock.

Improve Quality

"The most glaring problem that we have in the Minnesota feeder pig industry now would be that of quality," says Dr. Egertson. "When the production of feeder pigs is accepted as a major farm enterprise, we will see the most improvement in this area."

A few years ago, a farmer who was buying feeder pigs often could only hope that he was getting clean, high quality pigs. All too regularly, the buyer was disappointed. In a short while, feeder pigs picked up an undesirable reputation.

It's different now, though. A growing proportion of the feeder pigs are being produced and transported under sanitary conditions; and buyers can be much more certain of what they're paying for. Laws governing the interstate shipment of feeder pigs help a lot in protecting farmers against the threat of diseases, for example.

While arrangements for interstate sales may vary some between different states, the most common method in the Midwest includes a before shipping inspection of the herd for diseases such as cholera and erysipelas. Then, the seller submits a veterinarian's certificate of approval to the agriculture department of the state to which the hogs are being sent and asks for a shipping permit.

The greatest amount of activity in the feeder pig business can be found now in Wisconsin. Farmers in this state have helped pioneer the development of a feeder pig business.

Wisconsin Exports

In 1958, out-of-state permits were granted for the sale of more than 600,000 Wisconsin feeder pigs. This amounted to more than half of all the pigs produced in the state. In 1952, pigs moved out of the state accounted for only one-fifth the volume produced.

Few farmers are specializing in the production of feeder pigs, though. This business is strictly a sideline for many of Wisconsin's dairy farmers.

It isn't an "every man for himself" project in this state. The Wisconsin Feeder Pig Cooperative has organized these producers and helped them with the purchase of good breeding stock, marketing and other services.

Production of feeder pigs is sharply increasing in southern Indiana now. This is a feed-deficit area. Russell Brower, extension animal husbandman at Purdue University, says some spectacular increases in feeder pigs sales are being recorded in Indiana.

The grain surplus areas in central and northern Indiana are absorbing the pigs produced in the southern part of the state and importing many more. In 1958, over 500,000 feeder pigs were shipped into Indiana. This compares with only 50,000 just nine years ago.

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ana Farm Bureau, farmers have inaugurated a feeder pig program that is based on certified breeding stock.

Extension workers and other agricultural leaders in Minnesota are in the process now of organizing a feeder pig cooperative for the state. Membership goal is set at 640. Some of the Minnesota farmers living on the eastern edge of the state are already members of the Wisconsin cooperative.

Additional proof of the surge of interest in the production of feeder pigs is the outbreak of feeder pig sales all over the nation. Several states held their first feeder pig auctions or sales last year.

One headache plaguing the feeder pig producer now is the market and its wide fluctuations. So far, no method has been devised that will successfully act as a governor and lend some price stability.

Feeder pig prices seem to move with butcher hog prices—when butcher hogs are low, so are feeder pigs; when butcher hog prices begin to climb, feeder pig prices follow right along.

A report on the activity and progress being made by the industry in some of the more prominent feeder pig producing or feeding states follows:

Wisconsin—This state has led the way in feeder pig production. The 600,000 pigs exported in 1958 went primarily to nearby states such as Illinois, Indiana, Iowa and Michigan.

Minnesota—Few pigs are imported here, but exports are beginning to build up. Minnesota is producing about 600,000 feeder pigs a year. Organization of the proposed feeder pig cooperative may result in more exports for this state.

Iowa—Most feeder pig inshipments are made from Minnesota, Wisconsin and Missouri. Relatively small numbers of pigs are being exported from Iowa.

Tennessee — Most feeder pigs are shipped out to Illinois and Iowa—about 500,000 pigs enter the Corn Belt annually from this state. Total production in Tennessee is about 1½ million pigs. Many small hog breeders are arranging their farrowing schedules to coincide with the Tennessee feeder pig sales.

Arkansas — Some feeder pigs are exported even though Arkansas is a deficit hog producing state. One specialist at the University of Arkansas points out that since feed grains have been a limiting factor in hog production, farmers are beginning to turn to feeder pigs and numbers will go up.

Kansas — Kansas imports some feeder pigs from Missouri and Iowa. One extension specialist in Kansas reports that the demand for high quality feeder pigs in this state is greater than the supply.

Michigan — The "Thumb Area" of the state produces feeder pigs for sale in the state. About 300,000 feeder pigs are raised annually. About 195,000 are sold through the weekly livestock auctions. Some pigs along the southern border of the state are sold to growers in northern Ohio and Indiana.

Virginia—This state has a goal of 1 million hogs in 1975, according to one economist. About 100,000 of these will be feeder pigs for sale in other states.

Arizona Safflower Trial Successful

WILCOX, ARIZ. — A safflower crop, grown experimentally on 700 acres in Cochise County this year, has proved successful, it was reported.

An oil seed crop, it is used as a premium oil in paints and varnishes while the meal or seedcake is used as a protein feed supplement for cattle, sheep and poultry.

The crop had a maximum yield of 3,766 lb. an acre on a 6.5 acre plot with an average harvest of 2,256 lb. an acre, both on the M. K. Dunnagan farm in Kansas Settlement.

On Bill Gaskill's farm in Kansas Settlement, the yield averaged 1,866 lb. per acre.

Mr. Dunnagan reported that his record crop's cash outlay to grow was $15 per acre. The contract price from a safflower products company was $74 a ton, delivered at Wilcox. Western Cottonoil Co. in Kansas Settlement has been marketing the crop.

Dr. Elton Johnson — H. L. Jones — Dr. J. M. Pensack

TEXAS CONFERENCE—Speakers at the Texas Nutrition Conference will include the three men shown above. At the left is Dr. Elton Johnson, head of the University of Minnesota poultry husbandry department. In the center is H. L. Jones, Uncle Johnny Mills, Houston. At the right is Dr. J. M. Pensack, American Cyanamid Co., Pearl River, N.Y. The Texas event is planned for Oct. 5-7 at Texas A&M College, College Station.

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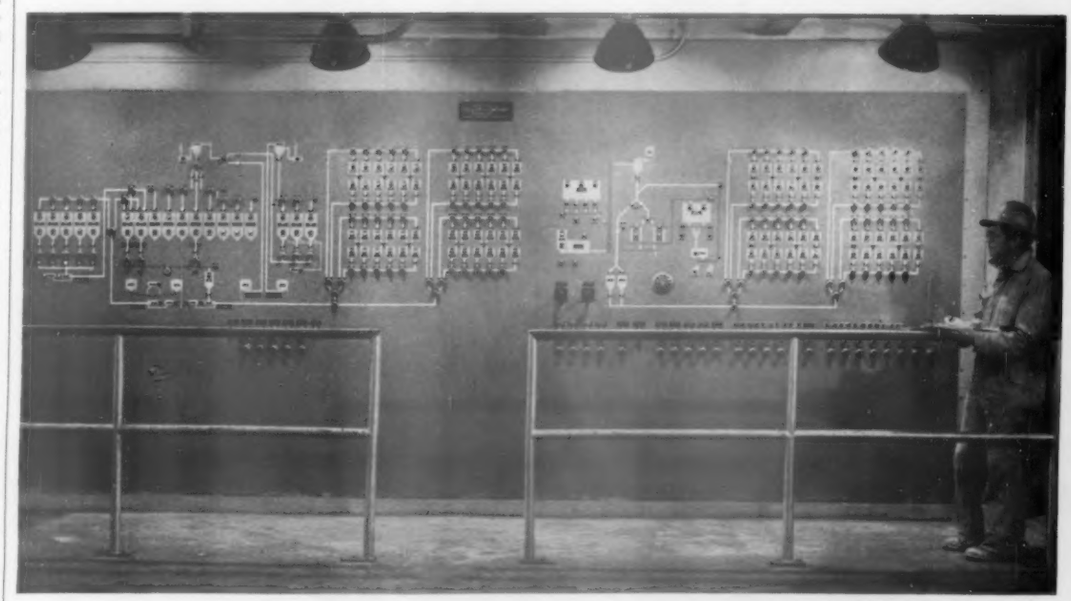

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Now... with one potentiated feed you can offer effective control of four major poultry diseases: coccidiosis, CRD, blue comb and synovitis.

Acceptance of potentiated AUREOMYCIN® for the prevention and treatment of coccidiosis has just been announced.

For ten years, scientists have known that AUREOMYCIN at high levels has anticoccidial activity. Now, with the dramatic breakthrough of potentiation, AUREOMYCIN becomes the *first* and *only* antibiotic cleared for control of coccidiosis. Your PF feed may now include claims for the prevention and treatment of coccidiosis caused by *E. tenella* and *E. necatrix*.

For the prevention of coccidiosis in both broilers and replacement chicks—your PF Starter containing 200 grams of AUREOMYCIN per ton fed for the first 3 to 4 weeks. Calcium sulfate to bring the total calcium level to 0.8%. Monosodium phosphate to bring the total phosphorus level up to 0.6%. *No anticoccidial other than AUREOMYCIN is required.*

For the treatment of coccidiosis in both broilers and replacement chicks—your PF treatment feed containing 200 grams of AUREOMYCIN per ton fed for 5 days. No added calcium is required—other ingredients usually give 0.4% to 0.55% total calcium. *No anticoccidial other than AUREOMYCIN is required.*

Your Cyanamid representative will be glad to give you detailed information, including results of experiment trials, on potentiated AUREOMYCIN for coccidiosis. Consult him or write direct to: American Cyanamid Company, Agricultural Division, New York 20, N. Y.

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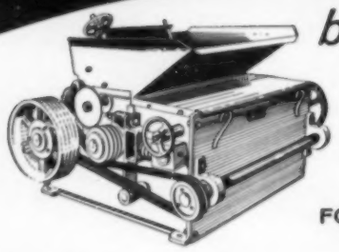

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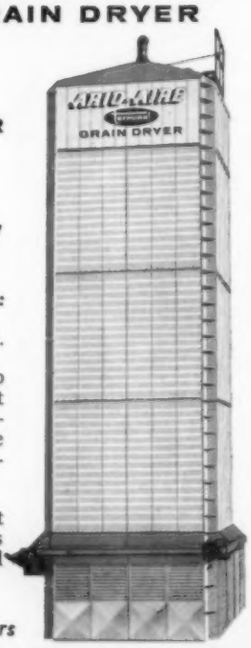

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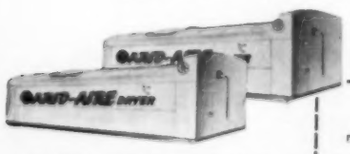

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OFFICERS ELECTED — Directors of the Kentucky Feed & Grain Assn. elected officers at the meeting of that group held in Lexington in connection with the 16th annual Kentucky Feed Conference. From the left, those shown above, are: Eldred Neubauer, Owensboro, vice president; Louis Shadbourne, Louisville, president; B. C. Parker, Bowling Green, retiring president, congratulating the new head of the organization, and Jack Weber, Lexington, re-elected secretary-treasurer.

Importance of Continuing Sales Effort, Advertising Stressed at Kentucky Event

LEXINGTON, KY. — Speakers at the Kentucky Feed Conference held here covered a wide range of subject matter—from how feed men fail to practice what they preach to results of research on the percentage of protein required for egg breed laying hens.

"We know that we are derelict in the performance of our duty to the farmer when we allow him to become penny-wise and pound-foolish in well-meant but economically unsound attempts to 'save' by cutting corners. Yet, we, in the conduct of our businesses, very often fail to practice what we preach," stated Eugene C. Holcombe, advertising director, Indiana Farm Bureau Co-op Assn. In his talk, Mr. Holcombe, agricultural marketing specialist, charted the courses of actual feed businesses that have fallen by the wayside as the direct result of their failure to maintain adequate sales effort programs. Taking as a specific example a firm he re-named "The Fenwick Feed Mills, Inc.," Mr. Holcombe presented a detailed graph which covered "Fenwick's" decline over a five year period. The chart proved that there is a definite relationship between sales effort and sales volume and demonstrated that, sooner or later, cuts in sales manpower and advertising are reflected in feed tonnage.

Sales Effort Essential

"There is no way to move merchandise excepting through sales effort, either written or spoken," declared Mr. Holcombe. "And, there is nothing quite so sad as watching a once-healthy business go down the drain as the direct result of a reduction in sales effort. Well-thought-out reductions in non-productive costs are one thing, but cutting the ground from under your business is another."

Pressing his point, Mr. Holcombe challenged the audience still further: "The feed business is sometimes a relatively unstable proposition, swinging back and forth, up and down. To panic when it enters a temporary or seasonal slump is suicidal. The time to pour on the coal is when things are slacking off, not when they're booming. After all, if your canoe springs a leak when you're a mile offshore, do you paddle faster or slower?"

In closing, Mr. Holcombe admitted that advertising expenditures do seem to increase when business is good and decrease when it is slow. "The only explanation I can offer for this puzzling phenomenon is that many management people fail to properly watch day-to-day costs constantly, then hit the panic button when tonnage slacks off," he concluded.

John J. Begin, associate professor in poultry science, University of Kentucky, discussed results of experiments on the percentage of protein required for egg breed laying hens for maintenance of optimum laying house performance. He also referred to the influence of fats on chick performance.

The protein experiments were conducted at two sub-stations. At the Robinson Sub-Station, 140 pullets were housed in four identical 20 by 20 ft. pens and at the Western Kentucky Sub-Station, 140 pullets per pen were housed in 30 by 30 ft. pens. Rations were formulated from corn, soybean oil meal, meat scraps, alfalfa meal, vitamins and minerals and contained 12, 14, 16 and 18% protein. All diets were fed as an all-mash with oyster shell free choice.

Records were maintained on feed consumption, mortality, egg production and egg weight.

Mr. Begin said that the results indicate that approximately 16% protein is required for egg breed laying hens under the conditions of these experiments for the maintenance of optimum laying house performance. The data from each sub-station showed that 12% protein did not support maximum production and the mortality rate was high. There was evidence in the Robinson test that low protein diet reduced egg weight.

The 14% diet was much superior to the 12% but still inferior to the 16 and 18% diets.

No improvement over the 16% level is noted in the performance when the protein level was raised to 18%.

In regard to the influence of fats on chick performance, it was stated that the major benefit is from energy not the unidentified growth factor.

Also presented at the convention of the Kentucky Feed & Grain Assn. were reports on research in the fields of beef, swine and sheep production and animal nutrition. Brief results of the work were reported (Feedstuffs, July 23) following the University of Kentucky's field days at two sub-stations. More complete information on the experiments will be reported later.

New Grain Brokerage

GREELEY, COLO.—Formation of a new general grain brokerage business in Greeley, the Northern Colorado Grain Co., has been announced.

Officers of the corporation are John Basey, Victor Touslee and Deane Timothy.

"So what if your husband does snore?" said the neighbor. "Lots of husbands snore."

"Yes," sighed the baggy-eyed wife, "but my George is a ventriloquist and he snores on both sides of me at once."

◆ ◆ ◆

This one is supposed to have happened to the great grammarian, Noah Webster. His wife entered the kitchen one day to see Mr. Webster kissing the cook. "My dear," she exclaimed, "I am surprised."

"No, my dear," Noah Webster said. "You are astonished. It is we who are surprised."

◆ ◆ ◆

Worse than Job

A well-dressed man walked into a psychiatrist's office and admitted he was miserable.

"I have two cars, a swimming pool, and a very attractive girl living next door. But I'm still unhappy."

"But why aren't you happy?" asked the doctor.

"Because," the man said, "I lost my driver's license, I can't swim, and the girl next door is married."

◆ ◆ ◆

A New Mexico woman tells of going to the city to attend a cattlemen's convention. Determined to have something unusual to wear, she made a blouse and embroidered every cattle brand she knew on it.

In the hotel where the cattle folks stayed, she waited while her husband registered, noticing two old cattlemen giving her blouse the once-over. Finally one of them remarked in a loud voice, "That critter sure has changed hands a lot, ain't she?"

◆ ◆ ◆

Whatever my income,
There's this much about it;
I can't live within it,
And I can't live without it!

◆ ◆ ◆

A Japanese visitor to the U.S. is quoted: "You Americans are funny people. You take a glass, put sugar in it to make it sweet, lemon to make it sour, then gin to warm you up, and ice to cool you off. Then you say 'Here's to you!" . . . and drink it yourself."

◆ ◆ ◆

Sue: "I hear you told Bill yes. Did he happen to mention that he had proposed to me first?"

Lulu: "Well, not exactly, but he did say he had done a lot of foolish things before he met me."

◆ ◆ ◆

A Texas GI was playing poker with a British soldier and he drew four aces.

"One pound," said an Englishman on his right.

"Ah don't know how you-all count your money," drawled the Texan, "but Ah raise you a ton."

◆ ◆ ◆

About the time a fellow gets to the point where he thinks nothing is too good for a girl, he offers himself.

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Industry is too competitive to leave anything to chance and all factors must be watched. The quality control laboratory plays an important part in your operations by checking the ingredients going into your products to assure you they are up to their guarantee. The high cost of concentrates leaves little choice but to assure yourself that the product is up to analyses and not excessively above. Analysis of the finished product is essential in rounding out your quality program.

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During the peak season, millions of pounds of liquid condensed whey are stored in huge tanks that are temperature controlled to maintain freshness and purity. During the off-season, Western can draw on this supply at your convenience.

The product is spray-dried to retain unidentified growth factor benefits and superior protein content. Uniform color and distribution in mixed feeds are assured.

Only Peebles' products can guarantee year-around availability, superior spray-dried processing and unvarying high quality. 32 plants across the country offer convenient service within easy reach.

Write for complete information about Peebles' Dried Whey products and how they can be of profit to you. Address: Dept. 54A.

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U.S. Situation in Proteins, Fats and Oils

By Fred M. Seed
Cargill, Inc.

This year, as every year, our industry's situation is both economic and political. On the economic side, fortunately, we have facts, figures and certain reasonable statistical procedures through which we can estimate what is to come. On the political side we have politicians, pressures and considerably less predictability. I will devote myself, in this report, largely to economic matters, but I will leave a little time at the end for political conjecture.

Soybean meal, after five years of continuing annual increase in consumption, has this year struck a period of hesitation. We have greater numbers of protein consuming animal units than formerly, but they are being fed less protein. This is due, first of all, to lower prices for both hogs and eggs, resulting in a holding back by farmers on their protein and formula feed purchases. Secondly, a harvest of unusually high-moisture corn has caused hog raisers to feed protein sparingly, and, in some cases, to feed corn straight, without protein supplement, to use it up during the winter months. This has made for inefficient feeding, but has forestalled much danger of corn going out of condition with warmer spring temperatures. During the January-March quarter, total corn disappearance ran about 14% above the same period a year earlier. Record highs for disappearance were set both years.

There has been a hesitation, also, in the U.S. broiler industry, which in 1959 was estimated to have accounted for 17% of our domestic soybean meal consumption. A period of depressed prices, resulting in broilers selling as low as 14 to 15¢ a pound, brought serious dislocations within the industry and substantial financial losses to feed suppliers and others financing broiler production. It also, however, resulted in a review and strengthening of credit policies to place the industry on a more solid financial footing. There is little doubt that the hesitation will be brief, and an upcurve shortly will be resumed.

Excess Capacity

Production capacity of the U.S. soybean industry has increased this year with completion of several new crushing plants and expansion of several others. This construction, which was actually begun the previous year, has resulted in capacity considerably greater than current (meal or oil) demand, and has brought about a marked narrowing of crushing margins.

Essentially, the soybean crush in the U.S. is determined by the need for soybean meal. The decreased amount to be consumed domestically this year will result, therefore, in a total crush less than last year. In view of expanded capacity, narrowing of margins must be expected although the urgent demand for proteins occasioned by drouth in northern Europe and the low Argentine crops were helpful last fall and winter. This export demand, linked with the normal but considerable growth of formula feed manufacture in Europe and elsewhere, has resulted in export from the U.S. of some 42% more soybean meal in October-March this year compared to the previous year. Total exports of all three vegetable proteins—soybean, cottonseed and linseed meal—have climbed some 88% during the same period.

We have had periods of over-expansion before, but not of such magnitude. At least 1,400,000 long tons capacity has been added in this surge to bring the estimated capacity up to around 14 million long tons. Both the U.S. and other areas almost certainly will feel the pressure on margins of this over-expanded plant for some years. We will, of course, get some help from the natural upcurve of meal demand and, possibly, some scrapping of inefficient plant capacity, but this will take time. The U.S. Department of Agriculture estimates a total crush this year about equal to last year's but many in the trade expect it to be from 1-3% less, or from 10,450,000 long tons to 10,600,000 long tons.

Still another noteworthy happening this year was the lowering by 24¢ a bushel (nearly $9 a long ton) of government support prices for the 1959 soybean crop. This has been effective in materially reducing the amount of 1959 soybeans that will end up with the Commodity Credit Corporation as more farmers have elected to carry the risk themselves. However, in spite of ample opportunities until recently to realize from 10-20¢ per bushel over the loan price, it appears the CCC will obtain 400,000-500,000 tons from the current crop.

Beans

CCC began this crop year with 42 million bu. in its hands. An administrative decision was made to sell them at competitive market prices, though not at less than 20¢ over the 1959 loan figure. At present all but 7-million bu. has been liquidated, though this figure will be increased shortly by a scheduled takeover of some 13 million bu. of '58 beans held on farms under the government's reseal program.

CCC continues to sell beans whenever it can obtain 20¢ or better above the loan. This policy has been announced to extend to Sept. 30. Beyond then it seems likely that offerings will continue to be made, possibly at a lower minimum price after Oct. 1, but it does not appear that toll crushing or other special disposal programs will be undertaken.

U.S. stocks of soybean oil have

EDITOR'S NOTE: *The accompanying article is from a talk by Mr. Seed before the International Association of Seed Crushers July 20 in London. Mr. Seed is vice president and a director of Cargill, Inc. Pertinent statistics from U.S. Department of Agriculture and trade sources were used in the presentation. They were prepared in early May and are based on facts available at that time. Crop forecasts for the 1960-61 year were based on March intentions to plant reported by USDA and were, of course, subject to change.*

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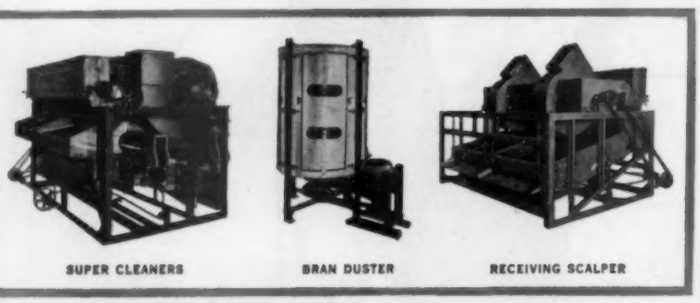
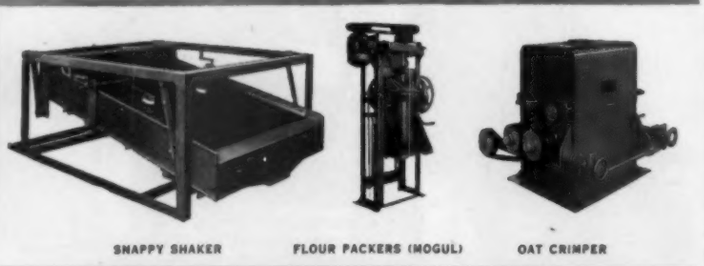
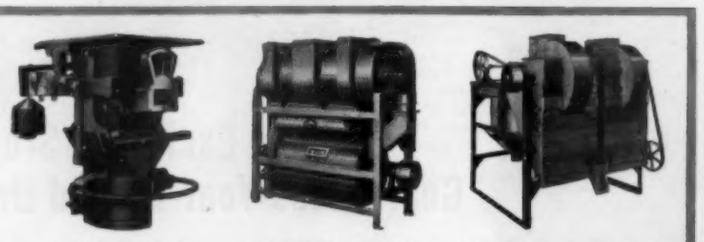
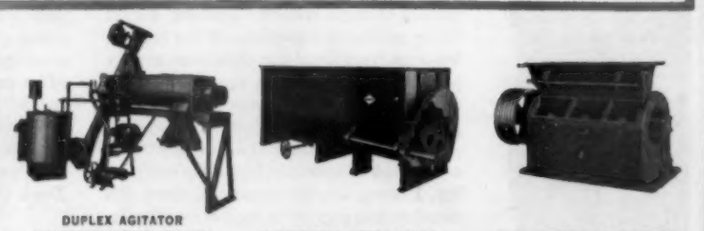

SUPER CLEANERS — BRAN DUSTER — RECEIVING SCALPER


SNAPPY SHAKER — FLOUR PACKERS (MOGUL) — OAT CRIMPER


O. K. BAGGING SCALES — IN-SUSPENSION SCOURER — CENTRIFUGAL DISC ASPIRATOR


DUPLEX AGITATOR MOLASSES MIXING SYSTEM — HORIZONTAL BATCH MIXER — CORN CUTTERS & GRADERS

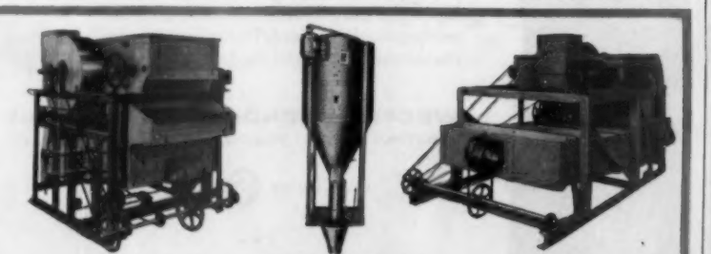
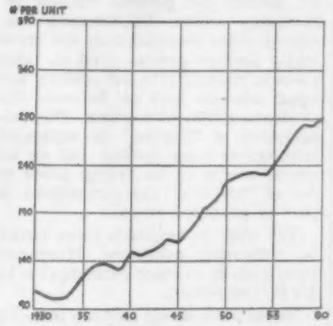

SEED CLEANERS — VERTICAL SEED MIXERS — AIR FINISHER

CHART 1. Protein Fed Per Animal Unit



reached an all-time high despite an apparent 6% increase in domestic use due to its low relative price and increased population, and despite a very large increase in free dollar exports due also to the relatively low price in world trade. The difficulty, thus far, has lain in reduced export shipments under Public Law 480. P.L. 480 activity is expected to pick up through the balance of the year, but even so year-end probably will find us with record stocks on hand.

Such matters as high-moisture corn, momentarily depressed poultry production, European drouth conditions, lowered P.L. 480 shipments, etc., markedly affect soybean oil and meal sales in the short run, but have little meaning for the industry's development through the years. Long-range forecasting, assuming no further price support complications, must be based, instead, on the trend to increased protein consumption per animal unit, on increasing total numbers of animals, on rising population figures and on increased per capita meat consumption. Charts 1, 2, 3 and 4 show the course of these phenomena to the present time and in some cases, projection into the future.

Improved Feeding

Chart 1, to my mind the most startling of them all, illustrates how improved feeding practices since the middle 1930's have caused the average intake of protein per animal unit almost to treble. From a low of roughly 100 lb. per unit in 1932 we have climbed to roughly 290 lb. today.

A simple extension of this trend line would look very pleasant indeed, but we must expect a leveling-off of the curve since so high a percentage of U.S. poultry and livestock now receive balanced feeds. The chart refers, of course, to total protein meal but soybean meal, which as recently as 1950 comprised one-half of all protein, today makes up 60% of the total, and so shares more vigorously in the overall trend than any other meal product.

Chart 2 shows protein consuming units since 1930. You will note a very high point during the war years, then a decline, then a resumption of growth. Projection suggests that by 1980, if we are to supply the expected demand of increased population, we will have roughly 55% more protein consuming units in the U.S. than today.

Chart 3 indicates continued rapid growth of population in the U.S., with about 17% more people to be fed by 1970 and 43% more by 1980.

Chart 4—per capita meat consumption in the U.S.—is less dramatic than the others, but when 1980's projected 16% increase in per capita consumption is applied to our expected 43% population rise, the result is spectacular indeed. And soybean meal, through this entire growth period, will supply an increasingly large proportion of the protein demand. It has supplied a large part of the protein demand so far primarily because it has been a good buy, and it will continue to increase its proportion only if it remains favorably priced, competitive in every way not only with the usual proteins, but also with the increasing protein products of chemical and petroleum research.

Any discussion of fats and oils and their export from the U.S. must make reference to the St. Lawrence Seaway, our country's new exporting coast, and its resulting addition to our total vessel loading capacity. In the matter of Great Lakes soybeans, Canada is still the primary buyer, taking its supplies mainly from Chicago and Toledo. European countries will become substantial purchasers, however, with supplies coming both from Duluth-Superior and from production in Ohio. These exports should be considerably facilitated this summer, as operation is begun at Cargill's new year-round installation in Baie Comeau, Quebec, on the ocean end of the Seaway. The major portion of soybean oil shipments will continue to be made from Gulf ports due to plant locations and availability of economical barge and train-load rates.

Soybeans

Total soybean exports for this crop probably will set a new record of 3,348,000 long tons or more, for there appears to be a recent renewed demand for summer crushing. As we have noted, the U.S. crush may be 10,450,000 to 10,600,000 long tons. This would leave a carry-over on Oct. 1 of from 1,100,000 to 1,300,000 long tons, a large share of which will be in government hands.

Soybean farmers, as of March 1, indicated they would plant 6% more acres, but subsequent planting conditions favored an even greater acreage increase.

Flax

Flax export, now that ocean vessels can load at Duluth-Superior, is enjoying definitely lower transportation costs. We may still see some transshipment at lower St. Lawrence ports to serve parcel freight destinations, but the major flax movement should now take place direct on ocean vessels.

While transportation costs have improved the outlook for U.S. flax, that oil seed nevertheless presents a striking contrast to the vigorous growth

Soybeans: Supply and Disposition Crop Year Beginning Oct. 1

(In 1,000 long tons)

	1954-55	1955-56	1956-57	1957-58	1958-59	Estimated 1959-60	Estimated 1960-61
Supplies—							
Beginning stocks (Oct. 1)	35	265	99	265	565	1,671	1,221
Production	9,141	10,010	12,044	12,963	15,536	14,418	15,142
Total	9,176	10,275	12,143	13,228	16,101	16,089	16,363
Utilization—							
Processing	6,673	7,587	8,466	9,482	10,752	10,580	†11,941
Feed	43	46	54	40	59	}	
Seed	627	699	724	788	726	} 938	938
Other disappearance*	—53	+43	+345	+62	—58	}	
Domestic disappearance	7,290	8,375	9,589	10,372	11,479	11,518	†12,879
Exports	1,621	1,801	2,289	2,291	2,951	3,350	3,482
Total disappearance	8,911	10,176	11,878	12,663	14,430	14,686	†16,363
Ending stocks (Sept. 30)	265	99	265	565	1,671	1,221	
Acreage and yield—							
Harvested acres (1,000)	17,047	18,620	20,642	20,826	23,900	22,428	23,800
Yield (bushel per harvested acre)	20.0	20.1	21.8	23.2	24.3	24.0	24.0
Product outturn per bu.—							
Oil (lb.)	10.9	11.1	10.9	10.7	10.6	10.9	11.0
Meal (lb.)	45.8	46.2	47.5	46.8	47.4	47.0	47.0

*Includes adjustments for dockage and other losses, supplies otherwise unaccounted for and possible statistical discrepancies.
†Available for processing or stocks.

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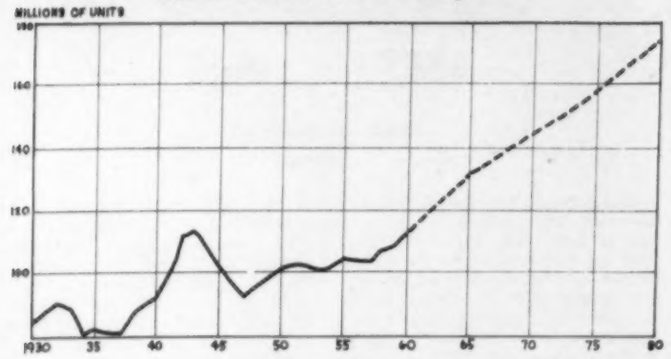
CHART 2. Animal Protein Consuming Units



of soybeans. Flax has had difficulty competing for acreage with more favorably supported crops, so expected 1960 acreage is virtually the same as that of 1959.

This year, like last, should see virtually all flax production moving into commercial channels rather than to CCC. That agency now has on hand only a small amount of reseal flax from the '58 crop and that quantity will be liquidated shortly at the country elevator level. No linseed oil whatever is in government hands at present.

Domestic requirements for linseed oil are expected to remain steady or to show a very slight rise. As you know, linseed oil has virtually lost the U.S. market for interior paints to other oils or non-oil substitutes, and until recently was seriously threatened by non-oil, water-based products in the exterior paint market as well. Fortunately, vigorous research both by government and private firms seems to have accomplished a major breakthrough. We now believe we have found a satisfactory way to make a linseed oil emulsion that retains the age-old qualities of that oil and yet has all the sales appeal of the water-based materials. The discovery is an important one, and could well save the exterior paint market for our industry.

Food Fats

Major shifts in the use of food fats and oils have occurred in recent years but consumption—at about 45 lb. of fat content per person—remains remarkably stable. Substitution constantly takes place between the three major product groups—that is, table spreads, cooking fats and cooking and salad oils—as well as between the products within each group. The consumption of "visible," or separated fats, shows some decline, but an increase seems to be taking place in use of "invisible" fats—consumed as part of prepared foods.

The shift in emphasis from butter to margarine continues. Margarine now leads in average consumption by 1.2 lb. per person.

Those of us in the soybean industry are pleased to note that soybean oil now constitutes 80% of the total fats and oils makeup of margarine.

Cottonseed

Cottonseed production in the U.S. is entirely dependent on production of cotton fiber, and this, in turn, is dependent on government control programs. At present, cotton growers are able to choose between a "Plan A," which enforces regular acreage allotments but supports production at 75% of parity, and "Plan B," which allows the planting of 40% more acreage, but offers 15% less as a price support. For 1960, combined acreage under the two plans is indicated at 17.5 million acres, or 200,000 more than 1959. Beyond 1960, because the course of government programming does not lend itself to prediction, there is little that can be said about total cottonseed production. It is worth noting, however, that per acre productivity has increased steadily, with 1959 yields standing 70% above 1950, and that this trend will doubtless continue.

Lard

The U.S. lard situation for the 1959-60 crop year divides itself rather neatly into first half (October through March) and last half (April through September). For the October-March period, the situation was similar to that of edible oils. Production was up 7% and prices were low—lower even than soybean oil. Lower prices, plus introduction of bulk handling techniques and opening of the St. Lawrence Seaway, combined to make U.S. lard more competitive and to stimulate exports. The result has been exports for October through March of 50% more than last year. Domestic consumption appears to be up 4%.

The situation for April through September should be different. Production is expected to be down 10% from the previous year, prices are expected to be higher, and exports and domestic consumption therefore should be adversely affected.

Coconut Oil

Regarding the recently begun liquidation by our government's General Service Administration, of 118,000 long tons of stock-piled coconut oil, the pattern of bid acceptance suggests so far that GSA will not sell at less than the market minus a quality discount of from ½ to ⅝¢ a pound. It also appears that, though a pro-

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gram of offering 14-million lb. every six weeks is established by government regulation and can be altered only with six months notice, industry cannot depend on that amount of oil actually coming available on each occasion.

Inedible Tallow

Inedible tallow, like most U.S. fats and oils this year, was lower in price because of increased supplies. Domestic disappearance remained about the same, with increased use in animal feeds now accounting for some 25%, with a continuing decline noted in use for soap manufacture. Exports during the period were sharply up. Still larger production and record exports are again expected in 1960.

Safflower

Safflower seed production continues to expand in the U.S. with most acreage, and best acceptance, among farmers in California. In 1960 a 20% increase in acreage should result in total production of some 135,000 long tons. Both the domestic and export markets are expanding, with most exports being made to buyers in Japan.

My discussion so far has been essentially one of economics, yet through it all, and over it all, is the fact of government programming and government control. To be sure, agriculture in the U.S. has made extraordinary strides in the last 20 to 30 years, the very period in which government involvement in the economy has been strongest. However, the most startling success story in all of agriculture, the ascent — and probability of further ascent—of soybean production and of soybean crush, though it was accomplished during the period of government intervention, was more nearly outside controls than any other major grain or oilseed. Fortunately for our industry and for the farmers, neither acreage controls nor allotments were imposed, and realistic support prices and other policies were generally allowed to prevail. Thus, prices were able to lower as new production efficiencies were accomplished, lower prices encouraged development of new uses and expansion of old markets, and growth was able to continue and increase without too much hindrance. The American Soybean Assn., which represents soybean producers, deserves much credit for their wise determination to produce for markets rather than to build up surpluses.

I am convinced that sooner or later our government, our farmers and our taxpayers will recognize that more economic freedom must apply to all farm production. Soil bank efforts and acreage allotments where they have been used, undoubtedly have slowed somewhat the surplus buildup but have been altogether inadequate to keep pace with technological progress so rapid as to result in doubling and trebling average yields per acre.

As you are aware, this is an election year in the U.S. It is a year of vigorous attack by the other party of the last eight years' farm plan administration. It is a year for proposing new farm plans, each one supposed to correct present shortcomings, but each, I fear, liable to create as many problems as it might solve. In one or another proposal is to be found every possible combination of parity level, degree and kind of control, soil bank usage, type of payment to farmers, and so forth. The proposals have in common only the explicit promise that farmers' incomes will continue to be subsidized and the implicit promise that the cost will continue to be borne by U.S. taxpayers. The proposals certainly do not, this year, suggest any real withdrawal of government from the farm economy.

But I do suggest that higher parity —and resulting higher costs—may

CHART 3. U.S. Population

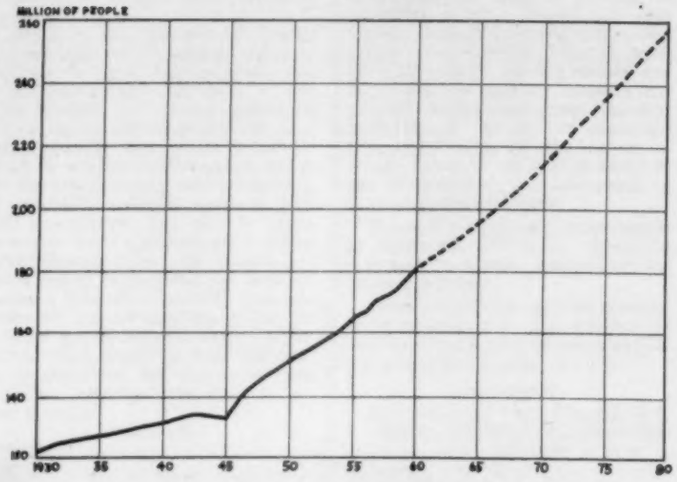
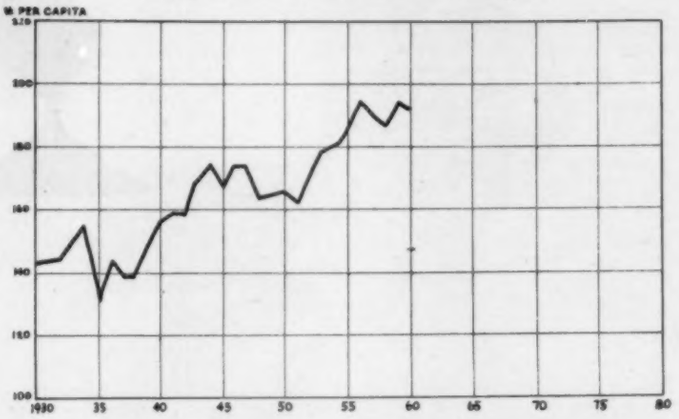


CHART 4. Pounds of Meat Consumed Per Capita



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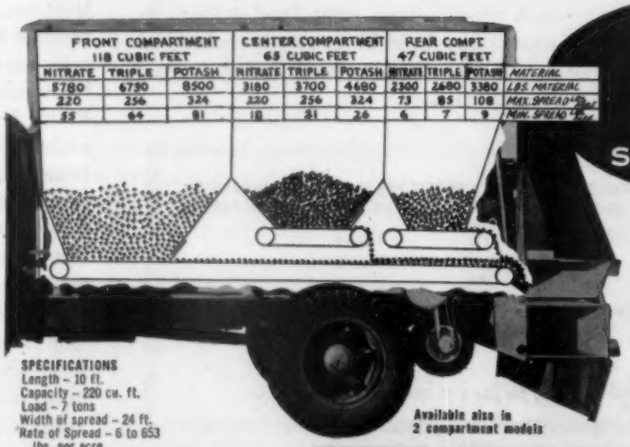
220	256	324	220	256	324	73	85	108	MAX. SPREAD 4 Tons
55	64	81	18	21	26	6	7	9	MIN. SPREAD 1 Ton



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A coccidiosis vaccine for use in drinking water or small amount of moist feed. Use with feed containing a recommended coccidiostat. See enclosed direction sheet. Broiler COCCIVAC protects chicks against cecal (E. tenella) and intestinal (E. hagani, E. acervulina) coccidiosis. Use at 3-4 days of age.
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FRENCHMEN VISIT—Mr. Dreiss, leader of a French feed industry group visiting U.S. feed mills, feed industry suppliers and poultry and livestock operations, introduces C. W. Whitmoyer (center), president of Whitmoyer Laboratories, Myerstown, Pa., to Mr. Fabre, a member of the French contingent. Whitmoyer played host to the group at a cocktail party and dinner at Hershey, Pa., with a discussion period following. There were 27 people in the French group, with their itinerary arranged by the U.S. Department of Agriculture.

find fewer advocates after elections than they do today.

Meanwhile, as long as the U.S. continues high level farm production at supported prices, it must continue efforts to move that production into useful consumption at home and abroad.

Soybeans, as has been pointed out, have received their major production stimulus not from high price supports, but instead from increasing demands by feed manufacturers for high-protein soybean meal to produce the meat and other animal products increasingly required by U.S. consumers.

In consequence, soybean oil became a by-product, and its existence in surplus became inevitable. Our government, however, under Public Law 480, has rendered great assistance in marketing this oil to countries in need of it. Worth noting—for it provides essential protection to the traditional markets of oil crushers everywhere—is the legal requirement that purchases under P.L. 480 must constitute new consumption, and that in most cases buying nations must show that their purchases and consumption of other oils continue at as high a level as before.

Thus crushers — both in the U.S. and abroad—are protected from undue competition in the free market, while at the same time they find promise of future markets. For P.L. 480 is creating a taste and a need for fats and oils among people who cannot at present afford to buy. These people will become free-market customers of all of us when earnings from their industrial expansion, induced partly by P.L. 480, become sufficiently great. Already there is evidence that some countries which formerly had only local currency for oil purchases are becoming customers of the free market.

That P.L. 480 will be with us for some time is evidenced by the recent four-year wheat agreement with India. It is worth noting that this agreement, because its extent will permit longer-range planning, promises to do more for development of permanent markets than the earlier, year-by-year arrangements.

In time, however—as important as P.L. 480 may be today—I have no doubt that the need for it will pass. For I am convinced that U.S. farm products, when they are allowed to achieve realistic prices through non-support competition in the world market, will not require government financing of any sort to enable them to find purchasers. Meanwhile, the P.L. 480 technique results in the least inhibition of free world markets, the most assistance to nations badly in need of food, the most encouragement to industrialization and rising standards of living within those nations, and the greatest potential for development of future free markets within these countries.

Another matter, that vitally concerns us all is that arising out of various governments' efforts to subsidize crushing activity within their borders by outright subsidy and tariff protection. I hope sincerely that this practice will not spread, for it holds real danger for the entire crushing industry. Some circles in the U.S. already have given serious thought to subsidizing our own export in order to equalize the position of U.S. crushers in countries where direct crusher subsidies exist. I oppose this tactic as I oppose crusher subsidies elsewhere. But if the present practice continues to grow I think it inevitable that the U.S. government and others will be forced to respond in kind. Then, instead of crushers competing with each other, the competition will be between the treasuries of our various governments.

Cotton Bag Sewing Contest Rules Told

MEMPHIS, TENN.—Nimble needlework will reward two American homemakers with expense-paid vacations in Los Angeles this fall.

The trips are top prizes in the 1960 National Cotton Bag Sewing Contest, an event at 50 U.S. state and regional fairs. Two national winners will be selected from first-place contestants representing participating fairs.

In store for the sack sewing queens and their companions are sightseeing tours of southern California landmarks and major Hollywood film studios, visits to network television and radio programs, dinners in famous restaurants and supper clubs, and accommodations in a luxury hotel.

Along with a third-place winner of $200, the two national bag sewing winners also will share in merchandise gifts that range from kitchen appliances to sewing notions.

Cash prizes in the amount of $100 will be given to premium winners in eight entry classifications at each fair.

Further information on the Cotton Bag Sewing Contest may be obtained from the National Cotton Council, P.O. Box 9906, Dept. C, Memphis 12.

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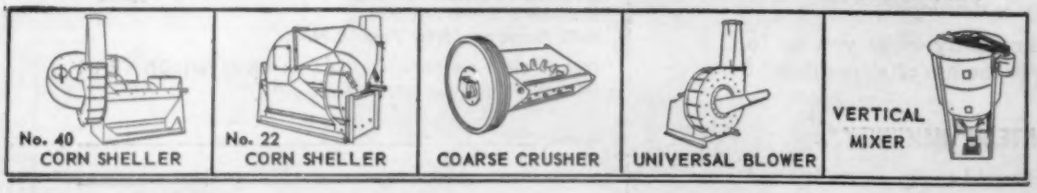

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POULTRY & LIVESTOCK Comment

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NUTRITIVE EVALUATION of Feeds for Livestock

By N. F. COLOVOS

Department of Dairy Science, University of New Hampshire

IT is generally agreed that one of the most important functions of feed is to provide the energy needed by the animal body for the various vital functions. Chemical analysis tells us what a feed contains, not how useful it is to the animal. What we need to know is its value to the animal. There is no general agreement as to the best measure of the energy value of a feed. Because all of the organic nutrients contained in feed can serve as a source of energy for livestock, we have as our goal an over-all unit of measurement which is easily determined, accurate, and reproducible. Four different methods are used in this country to determine the useful energy of livestock feeds. They are outlined below.

Total Digestible Nutrients

The determination of total digestible nutrients (TDN) requires that a digestion experiment be conducted in order to provide the digestion coefficients for protein, ether extract, nitrogen-free extract, and crude fiber. From these values and the proximate analysis, TDN is calculated by adding the following:

Percent crude protein x dig. coeff. for crude protein =
Percent nitrogen-free extract x dig. coeff. for nitrogen-free extract =
Percent crude fiber x dig. coeff. for crude fiber =
Percent ether extract x dig. coeff. for ether extract x 2.25 =

Percent total digestible nutrients =

The determination of digestible nutrients involves the separation of both feed and feces into the various constituents, then their recomputation into TDN. This procedure is laborious and ignores completely the considerable losses in the combustible gases (CH_4) produced in the rumen. TDN does not take into consideration the value of the energy after it is absorbed.

Digestible Energy

Digestible energy is basically the same as TDN except that the gross energy of the feed and the feces are determined directly by means of the bomb calorimeter. The gross energy of the feed minus the gross energy in the feces gives digestible energy. This method reduces analytical work to a minimum and may even increase accuracy. Digestible energy like TDN ignores the loss of energy in the combustible gases and does not indicate how useful the energy is to the animal.

Metabolizable Energy

The determination of metabolizable energy is shown by the following:

Gross energy of feed — (energy of urine + energy of feces + energy of methane) = metabolizable energy

It is generally agreed that this method is more accurate than the two previously mentioned methods. A respiration chamber is needed in order to determine the methane. This method, however, does not account for the energy lost in the work of digestion.

Net Energy

Net energy is determined as follows:

Gross energy of feed — (energy of urine + energy of feces + energy of

N. F. Colovos, associate professor of dairy science at the University of New Hampshire, with a part of the apparatus used in metabolism studies.

methane + work of digestion) = net energy

Net energy is the most scientifically acceptable method of expressing the energy value of a feed. It accounts for all losses, both in the undigested and digested portions of the feed, and expresses only the energy of the feed which is available for maintenance, growth, production of a fetus, or milk secretion.

The type of data provided by the net energy measurement makes it possible also to calculate the energy balance, or in other words the gain or loss of energy from the animal body. This is the final step in the direct quantitative measurement of the value of the energy content of a feed.

Even the determination of net energy, however, is not without weakness. Net energy values vary somewhat when measured under different conditions. The purpose for which the energy is being used also results in variations.

Work at the New Hampshire Agricultural Experiment Station has shown that these weaknesses can be eliminated by standardizing the conditions under which measurements are made. This has made it possible to get reproducible results and has made net energy the most sensitive measure of the productive energy of a feed.

The Ritzman Animal Nutrition Laboratory at the U. of New Hampshire

Research in energy metabolism at the University of New Hampshire was started in 1919 as a cooperative effort between Dr. F. G. Benedict of the Carnegie Institution of Washington and Professor E. G. Ritzman of the New Hampshire Agricultural Experiment Station. These gentlemen built the first inexpensive indirect calorimeter for studies with cattle put into use in this country. It was designed to take advantage of Dr. H. P. Armsby's discovery that the heat production of cattle can be computed with a great degree of accuracy from the amounts of carbon dioxide and methane produced and the amount of oxygen consumed by an animal.

A typical experiment in our laboratory consists of:

1. Preliminary or adjustment period. This is usually of about 15 days duration. During this time the stall is adjusted to the animal and the animal becomes accustomed to the kind and amount of feed to be evaluated.

2. Collection period. This period lasts about 10 days. During this time the feed, feces and urine are weighed, sampled and a composite sample of each is kept for analysis.

3. Heat production measurement on feed. After the collection period is completed the animal is put in the respiration chamber and fed the same as during the collection period. The heat and methane productions are determined during this period which lasts about 24 hours.

4. Heat production during fasting and on feed following the fast. After the animal has been fasted for 48 hours the respiration chamber measurement is repeated to determine the heat and methane production in the post-absorptive state. Following this the animal is fed in the chamber and the effect of the feed on the heat and methane production is again determined.

The accuracy, economy and volume output of our laboratory has attracted the interest of other institutions both in this country and abroad. The apparatus has been copied as such, or with some modifications, by other laboratories. Recently the Dairy Cattle Research Branch at Beltsville, Md., completed the Energy Metabolism Laboratory for conducting complete energy balance studies with cattle. This contains six respiration chambers similar to ours.

Interest in the energy metabolism field at the present time is such that it is not unreasonable to expect that we will have a standardized method and a single unit to express quantitatively the energy value of all feeds.

Mold Inhibitor Aids in Development Of Bermuda Grass Poultry Pellets

By A. M. HYSON

E. I. duPont de Nemours & Co., Inc.

FORTIFICATION of poultry feeds in the Southeast with precursors of Vitamin A, normally requires importation of large quantities of alfalfa meal from areas better suited for alfalfa production. This pattern may be about to change due to the development of Coastal Bermuda grass. Coastal Bermuda was developed in the 1930's under the direction of Dr. Glenn Burton at the University of Georgia's Coastal Plain Experiment Station. Since that time, it has become widely accepted as an excellent forage crop and over two million acres are now being grown in the South. Coastal Bermuda, when harvested at the 3-4 week stage, may contain upwards of 200,000 units of vitamin A equivalent per pound in the form of carotene. The crude protein content of good quality grass is 15% or above and may go as high as 19%. Feeding studies have shown that properly harvested Bermuda can replace alfalfa meal on a pound for pound basis as a source of vitamin A and minerals. Up to 5% by weight can be used profitably in a poultry ration.

Economics appear to favor locally grown Bermuda over western grown alfalfa as a source of vitamin A equivalent for poultry feeds formulated in the South. Shipping costs are minimized and good tonnage yields (up to 13 tons/acre) can be obtained due partly to an almost linear response of Bermuda to nitrogen fertilization. For this reason, several processers, particularly in Georgia and South Carolina, are hard at work perfecting dehydrating and pelleting operations. Dehydration is necessary to prevent spoilage and pelleting produces a conveniently handled product.

Problems in Storing Pellets

Since poultry production is a year around operation and harvesting, dehydrating and pelleting of Bermuda is seasonal, sufficient pellets must be stored to meet off-season needs. Storage periods up to six months may be necessary for a portion of the crop. This relatively long storage period creates two important problems—that of oxidative loss of carotene and mold development in the stored pellets. Since carotene is the chief precursor of vitamin A in Coastal Bermuda, it is not difficult to understand why oxidative losses must be kept at a minimum. Mold development in any poultry feed or feed ingredient is highly undesirable for several reasons — (1) reduction in food value results, (2) palatability suffers due to the production of off-odors and tastes and (3) moldy feed can cause serious disorders of poultry such as Aspergillosis and moldy-crop. Molds also may be implicated in hemorrhagic disease and non-specific enteritis. Even a trace of mold (not necessarily visible to the naked eye) in a poultry feed could thus cause serious economic losses to the poultrymen.

Oxidative losses of carotene can be minimized through the use of antioxidants developed specifically for preventing the oxidation of carotene in

Method used in determining mold-free life of feeds or feed ingredients. Samples are placed in special sealed flasks and are stored at constant temperature. The thermometer inserted into the sample through the stopper will measure any increase in the temperature of the sample, an event which marks the start of heating and molding.

forage crops such as alfalfa, Coastal Bermuda grass, etc.

The second problem, that of mold development, became evident when Coastal pellets were stored during the course of extended feeding experiments. Alfalfa pellets as well as Coastal pellets have also shown a tendency to mold under warm, humid conditions frequently encountered in the South. At the Du Pont Experimental Station in Wilmington, Del., experimental work aimed at solving this problem has been under way since last year. The results have been very encouraging and point to a successful solution to the mold problem. "Impedex" sodium propionate mold inhibitor is effective in controlling the heating and molding of Coastal Bermuda pellets stored under summer conditions. Pellets containing up to 15% moisture stored at 90° F. were protected for at least four months by six pounds of "Impedex" per ton of pellets. In the absence of "Impedex" the same pellets began to mold as soon as four days after storage.

Even though pellets may be relatively dry when produced, they do not necessarily remain so if exposed to humid air. At high relative humidity, the pellets pick up moisture rapidly so that the 12-15% moisture level could be reached in a few days with resulting mold and heating problems in the absence of any fungistatic agent.

Not New to the Feed Industry

Sodium propionate has been in use as a fungistat for several years by segments of the feed industry for solving just such problems. It has proven to be effective in controlling mold development in a wide variety of feedstuffs and has been extremely useful in feeds shipped for relatively long distances during warm weather, particularly those destined for export. This wide usage has proven the utility of "Impedex" and has shown it to be completely harmless to fowl or animals. Indeed, sodium propionate is recommended for preventing ketosis in dairy cattle where as much as a quarter of a pound per day has been fed to each animal for extended periods. "Impedex" is completely metabolized in the animal body and is a source of energy. The official publication of the Association of American Feed Control Officials, Inc. (1960) lists sodium propionate as an accepted mold inhibitor.

The major problems associated with the successful development of Coastal Bermuda grass as a poultry feed ingredient may thus be near solution, with poultrymen in the South reaping the benefits.

Restricted Feeding for Replacement Pullets

[Continued from page 4]

conventional rearing rations, the feed cost of rearing the pullets will be increased out of proportion to any benefits.

Thus, it appears that a more suitable way of producing strong, lean, rangy pullets might be by restriction of feed intake. However, experiments in which this has been done by restricting the total feed intake (restricted intake of protein, vitamins, minerals as well as the energy) often produce pullets which are weak and poorly-feathered rather than strong, lean, rangy, and well-feathered.

Scientifically Designed Rations for Restricted Feeding of Pullets. During both 1958 and 1959 (Bruckner and Hill, 1959, and unpublished work), studies have been conducted at Cornell with rations which are designed to contain higher levels of protein, vitamins and minerals and lower levels of carbohydrates and fats so that when these rations are fed at restricted levels to growing pullets, the chickens receive adequate amounts of all nutrients needed to produce strong body tissues, and good feathers, but have little excess energy for deposition as body fat.

It appears that a restriction of this feed to about 80% of that which would normally be consumed is about right to produce a strong, lean pullet at the onset of egg production. Sexual maturity is delayed by this procedure by approximately two weeks. Eggs at onset of lay are larger than pullet eggs but no larger than those of comparable hens which receive conventional high-energy rearing rations, full-fed. Mortality was somewhat higher during the rearing periods (especially if restriction is greater than 80% of **ad lib**) and lower during the laying periods in the restricted hens. Feed cost for rearing the pullets is lower, but additional labor costs may offset this advantage under many commercial operations.

Although some changes in growth rate, feathering and rate of sexual maturity can be made by feeding rearing rations of different energy content or by restricted feeding during the rearing period, the over-all results of the many studies conducted indicate that the most important consideration is the feeding of a well-balanced ration, containing the proper ratio of energy to protein and other nutrients and, that under these conditions, restricted feeding is of little economic or physiologic necessity.

REFERENCE

Bruckner, J. H. and F. W. Hill. 1959. Observations on restricted feeding of growing pullets. Proc. Cornell Nutrition Conference, pp. 104-111.

ALONG THE NUTRITIONAL FRONT

By M. L. SCOTT

Poultry Department, Cornell University

Rearing Rations and Restricted Feeding for Replacement Pullets

MOST poultrymen, breeders and egg producers alike, agree that for best performance the young pullet should be strong, lean, and rangy at the onset of egg production. Several different methods have been proposed for rearing replacement pullets in order to achieve this goal. These are: (1) The feeding of a ration containing large amounts of bulky low-energy ingredients; (2) Restriction of total feed intake; and (3) Restriction of energy intake.

The first procedure, represented by feeding a ration containing large amounts of bulky low-energy ingredients, causes a marked increase in total feed intake which usually results in an increased consumption of protein, minerals and vitamins as compared to the amounts of these nutrients consumed under conventional feeding of a normal growing ration. In the second case, the restricted feeding of a high-, or medium-energy growing ration, results in a restricted intake of energy, protein, minerals and vitamins by the pullets. The third plan calls for using a ration which contains a higher than usual amount of protein, minerals and vitamins such that a restricted intake of this ration results only in a restriction in energy, but provides approximately the same amount of protein, minerals and vitamins that would be consumed by pullets being full-fed on a conventional growing ration containing lower levels of protein, minerals and vitamins.

In studies conducted about 10 years ago with growing chicks, Dansky and Hill of Cornell showed that dilution of a growing ration with oat hulls up to a level of 50% oat hulls in the ration resulted in normal growth except when the bulk of the feed became so great that the chicks were unable to increase their feed intake sufficiently to obtain enough energy for normal growth. When the oat hulls were finely pulverized, the chicks increased their feed intake enough to grow at a normal rate, but did not consume enough of the "diluted" feed to obtain the same carcass fat composition as chicks receiving the basal ration without oat hulls added to it.

When the protein, vitamin and mineral levels were maintained constant in these rations, the chicks consumed much larger amounts of these nutrients than they needed, simply because they consumed more feed in an attempt to satisfy their requirements for energy. This evidence indicated that it is possible to produce a leaner pullet by the addition of an inert substance such as oat hulls to the growing ration used for rearing pullets, but that this method is wasteful of protein and may cause excessive, unbalanced intakes of minerals.

In a series of experiments at Cornell in which pullets have been full-fed with high-, medium- and low-energy rearing rations, conflicting results have been obtained during the subsequent egg production year. In one year, the pullets raised on the low energy feed gave slightly better production than those reared on the high energy feed. The following year, the pullets raised on the high energy feed gave better production during the first year than those which had been reared on the medium- or low-energy feeds.

In neither instance were the results really significantly different from each other. In fact, a summary of the results of six years' experience (Bruckner and Hill, 1959) shows an average first year production of 59.8% for the hens receiving high-energy feeds during the rearing program, and 60.1% production for the hens which had received low-energy rations during the rearing program. Records on mortality from these experiments showed identical mortality, on the average, in pullets receiving high- vs. low-energy rations during the rearing period; and almost identical mortality in hens from these two rearing programs during the subsequent first-year of lay.

Delay of Sexual Maturity. It has been shown repeatedly that in hens whose sexual maturity has been delayed, the first eggs laid are larger than those laid by hens which commence egg production at an early, slightly immature age. Many poultrymen, especially poultry breeders, feel that this delay of sexual maturity is desirable from an economic standpoint and perhaps a physiological point of view as well. The small pullet eggs, laid by immature pullets, do not make satisfactory hatching eggs. Some poultrymen also argue that a hen which commences egg production too early is more subject to prolapses (or perhaps that the higher energy rations which bring about earlier sexual maturity are conducive to excessive abdominal fat which precipitates prolapses).

The Cornell studies indicated no effect of type of rearing ration upon the incidence of prolapses. Furthermore, egg size depends upon the actual age of the hens rather than the feeding program during the rearing period. Hens of the same age lay equivalent sized eggs. Those which have been restricted by low-energy rations merely fail to lay the small pullet eggs and, therefore, begin laying larger eggs at a time when comparable hens reared on higher energy rations (which have already laid several pullet-sized eggs) are now also beginning to lay larger eggs.

Rearing Feeding Programs and Efficiency of Feed Utilization. The feeding of low-energy rations causes a marked increase in feed consumption during the rearing period. Unless the low-energy feed is **a great deal** lower in cost than

[Please turn to page 3]

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Except for Broilers, Farm Commodities Reached Higher Feed Ratios in August

WASHINGTON—Except for farm chickens and broilers, farm commodities were generally worth more feed per pound or dozen in August than in the month before. Without exception, all major farm commodity-feed price ratios were higher in August of this year than in the same month of 1959.

Ratios were affected by lower prices for meat animals and chickens and higher prices for milk and eggs.

Even though hog prices were in a declining trend last month, the mid-August hog-corn ratio, according to U.S. Department of Agriculture data, dropped only .1 from mid-July and was a favorable 3.1 points above the mid-August ratio of a year earlier.

Egg-feed and turkey-feed ratios showed considerable strength. During the July 15-Aug. 15 period, the number of pounds of poultry feed equal in value to 1 lb. of live-weight turkey rose from 6.9 to 7.2, the latter figure being .8 ahead of a year earlier. The egg-feed ratio increase over the same month was from 9.4 to 10.3, the Aug. 14 figure being 1.2 greater than a year earlier.

Reductions in farm chicken-feed and broiler-feed ratios were very slight from July 15 to Aug. 15, and the Aug. 15 ratios remained above year-earlier levels.

Milk-feed and butterfat-feed ratios were higher Aug. 15 than a month earlier and a year earlier.

Prices paid Aug. 15 by farmers for production goods averaged slightly lower than on July 15. Prices of feeder livestock and livestock feed led the decline.

Feeder and replacement livestock prices declined 2% during the reported month. Turkey poult prices dropped, but baby chick prices went to $12.90 per 100 in mid-August from the mid-July price of $12.60 per 100.

Feed prices declined for the fourth consecutive month; the index Aug. 15 was 193, off 1% from a month earlier and the lowest for the month since 1945. Sharpest reductions during the month were reported for feed grains, mixed hog feed and beef cattle concentrate. Mixed poultry feeds averaged slightly lower, hay prices were a little higher and grain by-product, high protein and dairy feeds were about the same as a month earlier.

Farmers received lower prices for all species of meat animals Aug. 15 than July 15. The meat animal price index slipped to 290% of the 1910-14 average—down 4% from July 15 and down 8% from a year earlier.

Higher prices for eggs and turkeys, partially offset by lower chicken prices, pushed the poultry and egg price index to 152, 3% above July and 9% above August, 1959. Egg prices showed the usual seasonal increase, and at 34.2¢ doz. were 10% above a year earlier. At 16.6¢ lb., commercial broiler prices were down 7% from July and the lowest since last November, but still were 6% above August, 1959.

Feed: Average Prices Paid by Farmers, U.S., Aug. 15, 1960, with Comparisons

Commodity and unit	Aug. 15, 1959	July 15, 1960	Aug. 15, 1960
	—dollars—		
Alfalfa hay, baled, ton..	29.1	29.7	30.0
Other hay, baled, ton ..	26.4	28.0	28.1
Cottonseed meal, 41%, cwt.	4.16	4.04	4.05
Soybean meal, 44%, cwt.	4.20	4.03	3.98
Bran, cwt.	2.76	2.78	2.80
Middlings, cwt.	2.96	2.92	2.91
Corn meal, cwt.	3.25	3.15	3.15
Scratch grain, cwt.	3.93	3.86	3.84
Laying mash, cwt.	4.44	4.31	4.30
Poultry ration costs, cwt.	3.41	3.34	3.32
Broiler growing mash, cwt.	4.83	4.64	4.62
Turkey growing mash, cwt.	4.79	4.62	4.60
Chick starter mash, cwt.	...	4.78	4.76
Mixed dairy feed, under 29% prot., cwt.	3.66	3.62	3.61
Mixed dairy feed, over 29%, cwt.	4.41	4.36	4.35
Mixed hog feed, 14 to 18%, cwt.	4.08	3.98	3.91
Mixed hog feed, over 29%, cwt.	5.33	5.14	5.09
Cattle feed, 30% and over, cwt.	4.37	4.29	4.25
	—Index numbers— (1910-14=100)		
Feed, prices paid by farmers	198	195	193

Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED—										
Farm Chickens:										
August, 1960	3.6	4.0	4.5	3.9	3.4	3.7	3.6	3.4	3.4	3.0
July, 1960	3.7	4.0	4.5	3.9	3.3	3.8	3.6	3.3	3.4	2.7
August, 1959	3.0	3.5	4.1	3.3	2.4	3.5	3.4	3.2	3.3	2.7
Average (1949-58)	5.5									
Average (Aug., 1949-58) ..	5.3									
Broilers:										
August, 1960	3.6	3.9	4.5	3.8	3.8	3.5	3.4	3.5	4.0	4.2
July, 1960	3.9	4.3	4.7	4.0	4.0	3.8	3.6	3.8	4.0	4.0
August, 1959	3.2	3.5	4.2	3.7	3.5	3.2	3.1	3.2	3.6	3.7
TURKEY-FEED—										
August, 1960	7.2	7.7	8.5	7.2	8.7	6.5	6.9	7.0	7.1	6.2
July, 1960	6.9	7.8	8.0	7.0	8.3	6.2	7.1	6.6	6.9	6.2
August, 1959	6.4	6.8	8.0	6.5	7.4	6.0	5.9	6.3	6.4	5.8
Average (1949-58)	8.4									
Average (Aug., 1949-58) ..	8.1									
EGG-FEED—										
August, 1960	10.3	14.3	12.0	9.3	9.0	11.3	10.4	10.2	10.7	9.1
July, 1960	9.4	12.5	8.9	8.7	8.7	10.5	10.0	9.3	9.9	8.2
August, 1959	9.1	12.2	10.2	7.9	7.8	9.7	9.2	8.3	9.5	7.8
Average (1949-58)	11.1									
Average (Aug., 1949-58) ..	11.4									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED—							
August, 1960	1.41	1.39	1.35	1.52	1.53	1.44	1.33
July, 1960	1.34	1.32	1.30	1.44	1.54	1.41	1.29
August, 1959	1.39	1.43	1.31	1.46	1.54	1.42	1.31
Average (1949-58)	1.30						
Average (Aug., 1949-58) ..	1.26						
BUTTERFAT-FEED—							
August, 1960	24.2	...	19.9	26.7	...	16.6	18.5
July, 1960	23.9	...	20.0	26.2	...	16.6	18.5
August, 1959	24.0	...	19.9	26.4	...	16.2	18.3
Average (1949-58)	22.2						
Average (Aug., 1949-58) ..	21.7						

	U.S.	North Cent.
HOG-CORN—		
August, 1960	15.3	15.6
July, 1960	15.2	15.7
August, 1959	12.2	12.3
Average (1949-58)	14.0	14.3
Average (Aug., 1949-58) ..	14.3	14.6

NOTE: Ratios computed at mid-month by U. S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder.

KEY TO GEOGRAPHICAL DIVISIONS

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combination of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

South Central: Combination of the two above.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

Terminal Plans Auction

NATIONAL STOCK YARDS, ILL.—For the first time in 87 years of operation, the big terminal livestock market next to St. Louis will sell stocker and feeder cattle and calves at auction.

Weekly sales are planned in the newly-constructed stocker and feeder cattle auction building which will be ready for business in October, according to Gilbert Novotny, Stockyard Co. president. The building measures 65 by 100 ft., and will cost more than $100,000.

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Swine Feeds Expanded by the Grain Expansion Process

Results of preliminary trials in Ohio suggest that the expansion method did not improve feeds—but scientists feel the process is worthy of more study.

By H. S. Teague and E. A. Rutledge
Ohio Agricultural Experiment Station, Wooster, Ohio

The "expanding" of starchy grains is brought about by heat within an expeller causing an expansion of the pockets of steam generated from the moisture in the grain.

Expansion occurs within a moisture range of from 12 to 15% and a temperature of at least 220° F., varying with the amount of moisture present. The bulk density of most materials is lowered from approximately 36 lb. per cu. ft. to 17.5 lb. per cu. ft. by the expansion process.

In studying factors which affect the consumption of early creep feeds, an apparent improvement in palatability resulted from expansion of the entire feed. (Am. Sci. Mimeo. 114, 1959)

Further comparisons have been made at Ohio using expanded early creep, starter and growing-finishing rations.

Experimental Procedure

Early Creep Feed—Sows and litters were moved to pasture lots within 2 weeks after farrowing. Modified self feeders with wooden platforms on each side were used for creep feeding.

Using the meal form of a simplified early creep feed (Table 1) as the control ration, groups of litters were offered one of the following feeds: (1) Basal early creep feed as meal; (2) expanded basal feed ground to a more uniform fineness; (3) expanded basal feed ground, then pelleted; (4) expanded basal feed with 10% lard substituted for rolled oats and corn added after expansion.

All feeds were expanded through the cooperation of the V. D. Anderson Co., Cleveland.

Earlier experience had shown that there was some sorting of the expanded feed in the self feeder and that the larger pieces were not eaten as readily as those of smaller particle size.

Therefore, as indicated, the expanded feed was either ground, or ground and pelleted, to minimize the possible effect of physical condition on consumption.

The creep feeds were made available from an average age of 14 to 35 days. Feed consumption and average daily gain for the first 5 weeks are shown in Table 2.

Starter Feed—Sixteen Duroc and and four Yorkshire pigs were weaned at 3 weeks of age and allotted on the basis of weight and general condition into four lots of 5 pigs each. Concrete-floored indoor pens were used and each was provided with a self-feeder and automatic waterer.

Composition of the starter feed is shown in Table 3. The experimental treatments were as follows: Lots 1

EDITOR'S NOTE: *This article is based on research conducted at the Ohio Agricultural Experiment Station at Wooster, and published under the names of two members of the department of animal science at the research station—Drs. H. S. Teague and E. A. Rutledge. The research was reported at the recent Ohio Swine Day.*

TABLE 1. Composition of Basal-Early Creep Feed

Ingredient	%
Rolled oats	66.0
Cracked shelled corn	33.1
Trace mineralized salt	0.4
Antibiotic supplement*	0.5
	100.0
Antioxidant (B.H.T.)†	5.68 gm.

*Aurofac 10 (American Cyanamid) containing 10 gm. aureomycin (chlortetracycline) per pound.
†Dalpac (butylated hydroxytoluene), Hercules Powder Co.

TABLE 2. Effect of Expanding an Early Creep Feed (1959 Fall)
Creep Feeds Available for 3 Weeks (from 14th to 35th Day)

Type of feed Gilt or sow litters	Basal feed (meal) Sow	Expanded (ground)† Gilt	Expanded (ground then pelleted) Sow	Expanded (+10% lard)‡ Sow
Number of litters	4	4	4	3
Number of pigs at 14 days	35	36	28	23
Number of pigs at 35 days	33	35	27	21
Average early creep feed consumed per pig, lb.	4.76	2.64	2.22	5.74
Average daily gain (birth to 35 days), lb.	0.53	0.45	0.39	0.51

Composition of feed shown in Table 1.
†Expanded product ground to a more uniform fineness.
‡Lard substituted for corn and rolled oats in the basal feed and added after expansion.

TABLE 3. Composition of Pig Starter Expanded

Ingredients	Per cent
Ground shell corn	47.48
Rolled oats	25.00
Soybean oil meal	11.00
Dried skim milk	6.00
Dried fish solubles*	2.00
Ground limestone	1.16
Calcium phosphate	1.06
Trace mineralized salt	0.40
Vitamin-zinc premixt	5.90
	100.00
Calculated protein, %	18.0

*"Dynasol," Vy Lactos Laboratories.
†Furnished 1 gm. aureomycin (chlortetracycline), 0.5 gm. vitamin B_{12}, 100 mg. riboflavin, 200 mg. calcium pantothenate, 450 mg. niacin, 500 mg. choline chloride, 300 I.U. of vitamin A and 6.7 gm. of zinc sulfate premixed with 4 lb. of soybean oil meal.

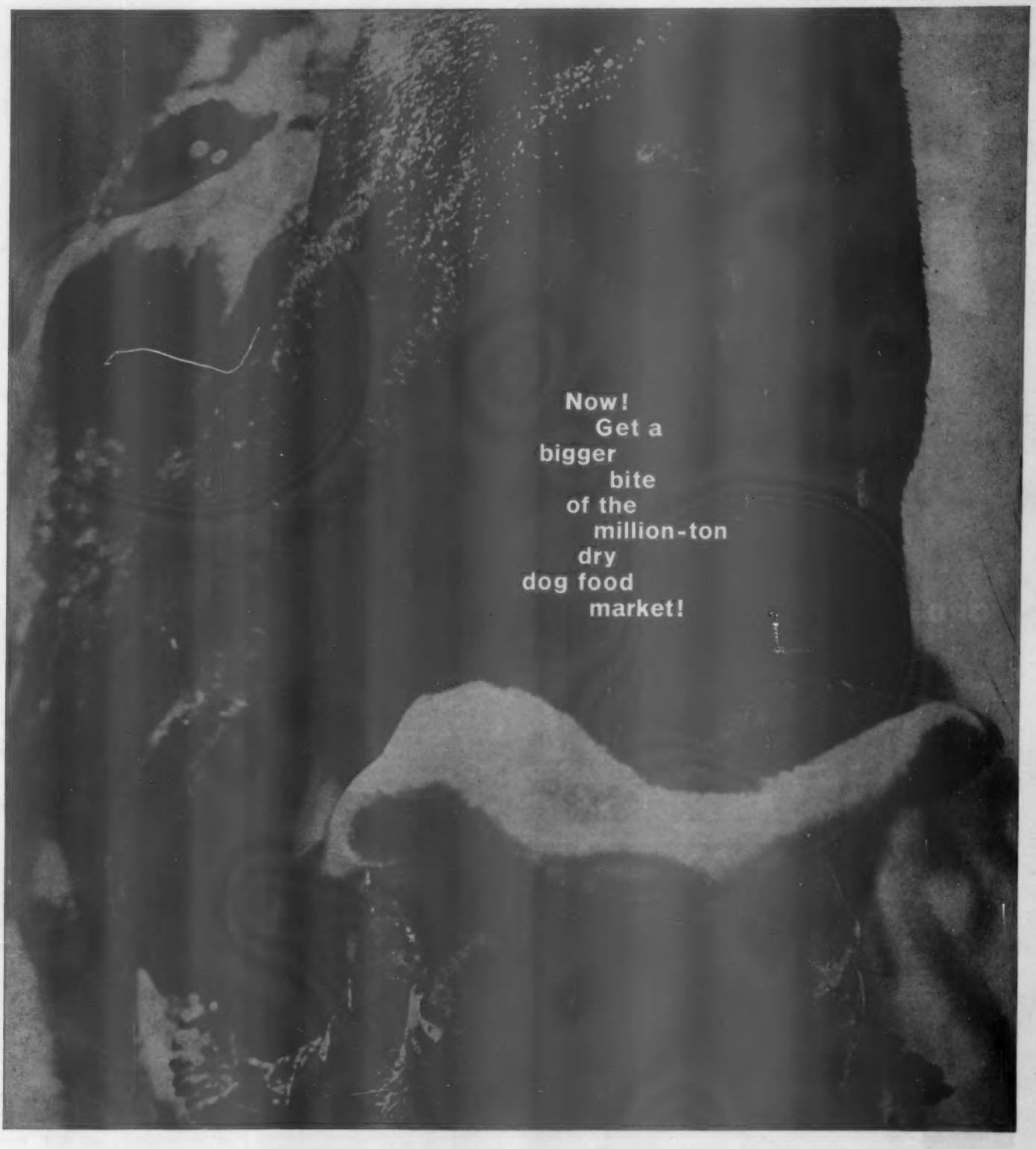

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TABLE 4. Effect of Expanding a Starter and Growing-Finishing Ration Upon Pig Performance

	Trial 1 (42 days) Pig starter				Trial 2 (48 days) Growing-finishing		
Feed expanded							
Lot	1	2	3	4	1	2	3
Form of feed	Meal	Meal	Expanded	Expanded	Meal	Meal	Expanded
Number of pigs	5	5	5	5	8	8	8
Average initial weight, lb.	11.4	11.3	11.3	11.3	46.3	46.1	46.3
Average final weight, lb.	45.6	38.7	32.2	31.1	115.2	123.8	106.4
Average daily feed, lb.	1.61	1.37	1.24	1.21	4.09	4.49	3.76
Average daily gain, lb.	0.82	0.65	0.50	0.47	1.44	1.62	1.26
Feed/100 lb. gain	198	210	250	260	285	278	299

TABLE 5. Composition of Growing-Finishing Ration

Ingredients	Up to 120 lb. %	120 lb. to market weight %
Ground shelled corn	78.00	82.10
Soybean oil meal, 44%	8.10	5.50
Meat and bone scraps, 50%	7.20	4.70
Dehydrated alfalfa meal, 17%	5.00	5.00
Steamed bone meal	...	1.00
Trace mineralized salt	0.50	0.50
B-vitamin supplement*	0.05	0.05
Vitamin B_{12} supplement†	0.05	0.05
Irradiated yeast, 9f-corn premix‡	1.00	1.00
Antibiotic supplement¶	0.10	0.10
	100.00	100.00
Calculated crude protein, %	14.5	12.5

*Merck No. 92 vitamin mixture containing 2 gm. riboflavin, 4 gm. calcium pantothenate, 9 gm. niacin and 10 gm. choline chloride per pound.

†Profector 10 (American Cyanamid) containing 10 mg. vitamin B_{12} per pound.

‡A mixture of 1.0 lb. of irradiated yeast, 9f, in 200 lb. of ground shelled corn.

¶Each pound furnished 5 gm. chlortetracycline ("Aurofac 10," American Cyanamid), 3.75 gm. zinc bacitracin and 1.25 gm. procaine penicillin ("Baciferm-PH10," Commercial Solvents).

and 2, starter feed as a meal; lots 3 and 4, starter feed expanded.

Details on feed consumption and gains may be seen in Table 4.

Growing-Finishing Ration — Twenty-four Duroc pigs averaging 8 weeks of age, were allotted to 3 indoor concrete-floored lots according to weight, sex and general condition.

Lots 1 and 2 served as control and were fed a complete mixed ration in meal form. The same feed was expanded for the pigs in Lot 3. Self feeders and automatic waterers were provided in each lot.

Composition of the ration is shown in Table 5. Liveweight and feed consumption were measured at 2-week intervals. The feeding period lasted 48 days. Summary of the trial may be seen in Table 4.

Summary of Results

1. Consumption of the early creep feeds was variable (Table 1) but it appears that the exanded feed, ground or pelleted, was not as palatable as the meal form of the basal feed.

Pigs consumed an average of 5.74 lb. of the expanded feed plus 10% lard, more than twice the amount of the other two forms of expanded feed eaten during the same period.

2. Three-week weaned pigs fed the pig starter as meal (Lots 1 & 2, Table 3) or in expanded form (Lots 3 & 4) ate less of the expanded feed and pigs in these lots made slower and less efficient gains than the controls.

3. In the 48 days growing-finishing trial the expanded ration again appears to have been less palatable and resulted in poorer performance.

4. Although the results of these preliminary trials suggest that the feeds used were not improved by the expansion process they should not be considered as conclusive. Expansion of feeds of different formulation or of only the grain portion of the ration and the effect of varying conditions during the expansion process seem worthy of further investigation.

S. C. Poultry Group Names New Officers

CLEMSON, S.C.—New officers of the South Carolina Poultry Improvement Assn. have been announced by P. H. Gooding, secretary.

Officers elected to fill the 1960-61 term include R. A. Chaplin, Columbia, president; J. D. Watson, Johnston, vice president, and W. B. Wofford, Hartsville, treasurer.

Other offices filled at a meeting during Clemson's Farm and Home Week were: Clyde Rauch, Leesville, delegate to the National Egg Council. Executive committeemen include George Warren, Greenville; Dr. R. A. Mays, Columbia; O. H. Green, Spartanburg; L. H. Hicks, York; Dr. B. D. Barnett, Clemson; Harold Mayer, Walterboro, and Mr. Wofford, Mr. Rauch, Mr. Gooding, Mr. Watson, and Mr. Chaplin.

Poultry representatives chosen were: Mayor H. R. Holladay, Central; Mr. Hicks; Paul Thomas, Sumter, first alternate, and Hayden Camp, Chesnee, second alternate.

INCORPORATION FILED

DOVER, DEL. — Rooster Feeds, Inc., filed a charter of incorporation with the corporation department of the secretary of state's office here. Authorized capital stock of the firm is $100,000. Corporation Trust Co., Wilmington, Del., is serving as the principal office.

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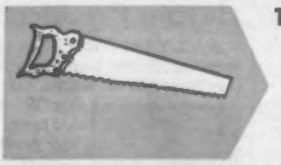

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K-State Reports Hammermill Study

MANHATTAN, KANSAS — "Production of hammermills can be increased 15 to 25% with improved granulation of the feed if the operator will substitute 1/16-in. thick individual hammers for the ⅛-in. hammers."

This is reported by Richard J. Baker, Kansas State University graduate student in feed technology, on the basis of investigations of hammermill operation in the school's pilot feed mill.

Mr. Baker said it did not appear to matter whether the hammers were grouped, or individually spaced.

"Most hammermills use fans to discharge ground grain, but from an economy standpoint, one might consider switching to a gravity discharge," the report said. Mr. Baker points out that a fan uses 25 to 30% of the total power requirement. A fan discharge does have the advantage of increasing production rates—an average of 12%—and keeps the ground product cooler. If one switches to gravity discharge, Mr. Baker says it still is necessary to pull a small quantity of air through the hammermill to control the fine dust.

A negative, rather than a positive, pressure should be used for the pneumatic handling of ground feeds. Mr. Baker says that when the ground product passes through the fan, the grain is ground even finer. This wastes some of the power and reduces fan life.

The amount a hammermill can grind is related directly to how finely the product is ground. Mr. Baker emphasizes that it is economically sound to grind a feed only as fine as necessary to meet consumer and production demands.

Doughboy Holds Sales Meeting in Wisconsin

SOMERSET, WIS. — "The biggest and most important sales meeting in the history of the Doughboy Industries formula feed division" was held recently here.

The session, to which men from several Midwest states came, brought together the combined sales forces of the New Richmond division and those of Ames (Iowa) Reliable which recently joined Doughboy after the company acquired a controlling interest in the Ames firm.

"Even more important than the numbers of people attending the session was the lineup of new rations, feeding and management programs and special services being offered by Doughboy to farmers of the Upper Midwest," officials said.

Specialists presented reports on research carried on at the company's research and demonstration farm, and then told of the newly-developed rations and feeding programs.

Bert Nolin, sales manager of the Ames division, Doughboy Industries formula feed division, unveiled a new feed guide for fattening beef cattle at the meeting.

A new hog program designed to help more farmers through Doughboy's swine feeding-management program for multiple farrowing units, also was discussed.

Laton M. Henderson, vice president, had charge of the program.

During one session, Maynard Speece of WCCO radio (Minneapolis) produced an interview program which was heard less than an hour later when it was broadcast throughout the Upper Midwest.

Lee Kline, Des Moines, a farm news commentator on radio station WHO in Des Moines, presented one of the taped Farm-O-Rama programs sponsored by Doughboy feeds on his station.

While in the New Richmond area, Mr. Speece, Mr. Kline and the visiting salesmen visited several St. Croix county farms and heard reports on hog production, poultry and turkey projects and dairy feeding.

The session at River's Edge was concluded with a talk by Edwin J. Cashman, Doughboy president.

National Renderers Appointment Told

CHICAGO—Election of Elizabeth M. Stecher as secretary-treasurer of the National Renderers Assn. at the recent board of directors meeting has been announced.

Elizabeth Stecher

A native of Chicago, Miss Stecher returns to her home town after spending eight years in New York City. She served there as administrative aide on government contracts in the Department of Chemistry, Columbia University, and studied as a mathematics major at the School of General Studies of Columbia University.

Prior to that she worked for J. B. Roerig & Co., a division of Chas. Pfizer & Co., Inc., in Chicago and New York City.

As secretary-treasurer of the NRA, Miss Stecher will coordinate association activities from the main office here.

Reedville Oil Names Haynie President

BALTIMORE—At the annual meeting of the board of directors of Reedville Oil & Guano Co., Inc., Allen W. Haynie, former executive vice president, was elected president. He also heads Haynie Products, Inc., sales and marketing division of the Reedville firm and all other subsidiaries.

Allen Haynie

He succeeds Ammon G. Dunton, White Stone, Va., who has been named chairman of the board.

The Reedville company, established in 1880, one of the oldest and largest fishing companies of its kind, operates its own fishing fleets in the Atlantic and Gulf and processes Menhaden fish at its plants in New Jersey, Maryland, Virginia and Mississippi. Its products are marketed by Haynie Products, Inc., to the feed trade under the "Hi-Seas" trade name and to the paint, lubricating and pharmaceutical trade under the Haynie label.

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UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

Feeder Cattle Prices

The usual uncertainties surround the forecasts of feeder cattle prices this fall. This is the time of year when cattle feeders are looking over the crop and trying to decide when and how many to buy and what prices to pay. It is a good idea for feeders to consider some history if their customers are in the market to buy or have some cattle to sell.

It looks as though the big build-up pressure that was expected has been taken out of this cattle cycle. Although cattle numbers hit a record of 101.5 million head last Jan. 1, the rate of expansion seems to be slowed down. This was further indicated by a smaller than expected calf crop. While we have a record number of cattle the annual increase did not set a record.

The base is still large enough for an explosive cattle cycle on the upslide but lower prices have made cattle producers a bit cautious. If a general prosperous economy over the next several years can be maintained, prices will more likely decline slowly. This will help cattlemen back away from further expansion.

In order to give a better idea as to price movements that have appeared in the past, we have taken a look at the prices of feeder calves at Kansas City. These are for the good to choice steer calves. Price movements are summarized from mid-August to the following three months for the years, 1947-59.

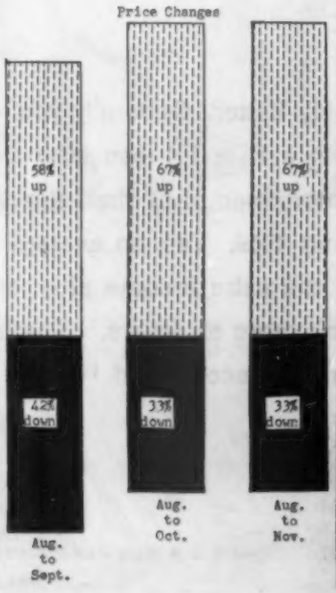
Direction of price changes since 1947 is indicated in Exhibit 1. This exhibit has been prepared to show you the percent of times prices have gone up, stayed the same or gone down from August to the following September to October and to November.

Here is how to read Exhibit 1. The top part of the first bar indicates the percent of times the average Kansas City price of feeder calves went up from August to September since 1947. Within this bar is a 58. This means that 58% of the years from 1947, prices advanced from mid-August to mid-September. The bottom part of the bar shows the percentage of the years prices went down.

The reader will notice that feeder calf prices have gone up from August to October and from August to November about three years out of five since 1947. They have gone down the other two.

What about feeder prices this fall? Kansas State University economists, who keep a sharp eye on cattle prices, indicate odds favor fairly steady to slightly lower prices of feeder cattle between now and winter.

EXHIBIT 1. Cattle: Feeder Calf Prices, Good and Choice Calves, Kansas City 1947-59



Effort Made to Reopen Virginia Poultry Plant

STRASBURG, VA.—Plans are being discussed which may bring about the re-opening of the defunct Pride of Virginia Poultry Corp. plant at New Market.

Letters to general creditors have been mailed by the New Market Area Development Corp. pointing out that Carolina Poultry Farms, Inc., has exercised an option to buy the buildings and equipment "subject to the ability of this community to raise $30,000."

"This $30,000 would be raised by the New Market Area Development Corp. on bonds bearing 5% interest, and would be secured by a 10-year lease from Carolina Poultry Farms, Inc., with sufficient income to amortize the loan during a 10-year period and also there would be a participating second deed of trust on the building, equipment, two houses and a large lot used for parking area," it was stated in the letter to creditors, signed by Richard E. O'Roark, president of the development corporation.

"If the sale goes through as a unit it will mean approximately 10% more than if it were stripped down and sold piecemeal. As indicated to us by the trustee in bankruptcy, the general creditors under the sale would get approximately 25% of their claim, and if sold piecemeal, they could expect only 14-15%," the letter continued.

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8-10,000 Hens Needed to Make a Living

ABILENE, TEXAS—The average poultry owner in Texas must keep from 8,000-10,000 hens in order to make a living from egg sales. He must also be highly mechanized and be able to spend a full day of his own on tending the flock.

This is the opinion of James Dobbyn, vice president, Power Feed Mill, which manufactures feed for many of the egg producers in west and central Texas.

"Such a flock and the facilities would cost around $40,000," said Mr. Dobbyn, "and this is what keeps the newcomers out. At present, no new people are getting into poultry. Yet many of those already in it are increasing their number of hens."

Mr. Dobbyn says the number of hens in west Texas has increased from 20-25% in the last five years, yet over half the producers have quit. These were mostly small farm flock owners or people who kept a thousand or two thousand birds as a sideline.

"In our area we have seen the rise of the independent producer," commented Mr. Dobbyn. "These people keep up with the research programs, they use a good feed, and they do a fine job of management. As fast as possible, they are mechanizing and turning to the use of bulk feed. These are the people we like to work with. We find it more profitable to take a good poultryman and help him double his flock than to induce someone without experience to start a poultry farm. We want fewer but larger producers who will keep abreast of all the changes and continue to grow in the business."

At one time the Power Feed Mill had 135 retail dealers, yet less than half these men are selling feed today. Many were very small outlets such as country grocery stores which were finally forced to close.

"We are making more feed than ever," said Mr. Dobbyn, "but the increase has been in going direct to the large flock owners. I think this will apply to any large feed mill. The company must concentrate on the large producers and haul bulk feed direct to the farms."

About 60% of the Power feed is sold in bulk form now, but the company expects this to increase to 80 to 90% within the next five years.

Chief Chemist Named

DECATUR, ILL. — A. E. Staley Manufacturing Co. has announced the appointment of Eldred K. Olson as chief chemist for the firm's quality control laboratory. He succeeds Lisle R. Brown who retired Sept. 1 after 36 years with the corn, soybean and chemical processing company.

Announcement of Mr. Olson's promotion was made by W. Robert Schwandt, methods superintendent.

Mr. Olson joined Staley as an analytical chemist in 1938 following graduation from the State University of Iowa with a bachelor of science and a master's degree in chemistry. He has been a senior analytical chemist in the control laboratory since 1955.

New Rice Processing Plant Being Built

STUTTGART, ARK.—The Arkansas Rice Growers Cooperative Assn. is building a new $500,000 parboiling and milling plant at Stuttgart. Planned capacity of the plant—it is scheduled to start operating about Feb. 1, 1961—is about 150 barrels of parboiled rice an hour.

L. C. Carter, Stuttgart, general manager for the association, explains that the demand for parboiled rice has become widespread. Approximately 12-15% of the rice used in the U.S. is parboiled. The parboiling process "gelatinizes" the starch in rice so that the grains retain their shape when they are cooked.

Besides the parboiling process at the new plant, milling machinery will be installed to improve the quality of dry rice for use both as feed and food.

EGGS POTENT

ATHENS, GA.—James C. Maness, extension poultryman, says two eggs give one-fifth of the protein and phosphorus, one-third of the iron, one-fourth of the vitamin A and D and about one-seventh of most of the B vitamins needed each day by the average adult.

FARM WORKERS DECLINE

ST. PAUL—Agriculture is the only major industry in which total employment is actually expected to decline between now and 1970, the University of Minnesota notes. The U.S. Department of Labor predicts a drop of more than 15% in farmers and farm workers during the decade.

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In this educational series to farmers and feeders, Dr. G. C. Wallis answers important questions about Vitamin D Nutrition.

Dr. Wallis Answers

YOUR QUESTIONS ON VITAMIN D NUTRITION

Q: How can I be sure each pound of my feed has the same amount of vitamin D as the next pound will have?
A: Uniform distribution depends mainly upon the physical properties of the vitamin D concentrate, proper mixing methods and efficient equipment. By careful management, mixing, adequate for all practical purposes, can be readily achieved. The extremely small particle size and free-flowing characteristics of Fleischmann's FIDY Irradiated Dry Yeast help tremendously in getting good distribution.

Q: At what age of animal is vitamin D most important?
A: Lack of adequate vitamin D can be disastrous at most any age. Formerly, vitamin D deficiency was thought to occur only in young growing animals. Research has now shown that mature dairy cows need vitamin D. Difficulties from inadequate vitamin D have also been observed in older beef cattle, sheep and swine.

Q: Is there a relationship between the daily feeding of a higher level of vitamin D, 8,000 units per pound of feed or more, and the possible control of milk fever without having to feed the massive doses recommended for the short period before freshening?
A: Recent careful research provides reasons why benefits from year around feeding of higher levels of vitamin D might be expected. Older cows have previously unrecognized difficulties in absorbing and utilizing calcium. Extra vitamin D helps. The results of clinical and practical studies on the control of milk fever by fortifying regular dairy rations at higher levels are very encouraging.

Q: Does artificial drying lessen the vitamin D content of hay?
A: Figured on a dry matter basis, the vitamin D content of artificially dried hay is probably about the same as was in the green forage before drying. During field curing vitamin D tends to increase but the amount is not as great as commonly supposed. Reports on 13 samples showed an average increase of only 115 units per pound during field curing. Such an increase in vitamin D in a whole ton of hay would be worth only about ¼ cent.

Q: What is the difference between brewers dried yeast and irradiated dry yeast?
A: Brewers dried yeast is a by-product from the brewing of beer and ale which is used in feeds mainly as a source of the B-complex vitamins and protein. FIDY Irradiated Dry Yeast is a primary grown yeast which has been subjected to ultraviolet irradiation under carefully controlled conditions to produce vitamin D_2. It is used in four-footed animal feeds solely as a source of vitamin D.

A. C. Wallis

For more complete answers to any of these questions write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

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The Acceptance of Pellets—Part 2

Case Histories Tell How Mills Make, Market Pellets

By Al P. Nelson
Feedstuffs Special Writer

The way in which regional mills make and market their pellets can be illustrated quite clearly by reciting some brief, individual case histories. Most certainly a perusal of these cases will show that human ingenuity, market potential and business acumen play an important part in which direction a pellet operation in a given area will move.

ILLINOIS:

Roanoke — Martin Brothers has a new $250,000 mill. It is entirely automatic except for the addition of minerals, antibiotics and other trace elements to each batch of feed to be mixed. Capacity is 100 tons per day, and the plant is operated by one man. Eighty per cent of the production goes into cattle pellets, and 20% into hog pellets.

The mill makes feed for the Martin Brothers cattle herds, numbering 4,000 at times, and also for other farmers. The Martins buy cattle at 700-800 lb. and feed them to 1,300-1,400 lb.

There is no hay in this firm's cattle pellets. Lewis Martin, mill manager, says corn is much cheaper than hay for pellets in the corn belt. A burr mill is used for cracking corn for the pelleting process.

The firm makes four finished cattle feeds, running 100 tons at a time for each type of feed. The feeds are listed by number and feeders order number one, two, three or four and know exactly what they are getting. A 100 h.p. pellet mill, with a 10-ton mash bin above it is used. The Martin firm has storage capacity of 200,000 bu. corn in eight Hoffman silos.

Leland—Bakers Feeds, Inc., has a new custom mill, including a 100 h.p. pellet mill for Bakers pelleted feeds and custom work. A 50 h.p. mill is used for smaller pellet orders.

N. Orrin Baker says the firm charges $3 ton for custom pelleting involving up to 2% hay content, more for greater roughage content. Custom pellet orders are stored in 1-ton capacity, metal mobile bins, at a warehouse until the customer calls for them. Bakers also does some commerical pelleting at $2 ton.

Hog feeders report to Mr. Baker that pellets produce excellent gains for hogs up to 100 lb. on an economic basis. If cheaper proteins are used in pelleting complete feed for hogs over this weight, this works out economically.

One sheep feed customer uses 40 tons of pellets per week with 25-40% hay in the ration. The feeder starts lambs at 40% hay in ration and then works down to 25%.

Mr. Baker plans to erect a hay storage silo, chop hay into 1 in. or 1¼ in. and store before using in pellet feed. This will reduce wear on machinery, he states.

INDIANA:

Odon—The Odon Milling Co. has a pellet mill capable of producing 6-8 tons per hour. The management reports 80% of its feed sales are in pellet feeds. Hog and poultry feeds are pelleted here.

Washington — Graham Brothers, Inc., which contracts broiler and turkey production, plus some egg marketing, has a pellet mill and a 40,000 lb. fat installation for the production of meal crumbles and pellets in its poultry program.

The firm also has 150,000 turkeys under contract and raises 50,000 on its own farms. About 1,350,000 broilers are fed annually on contract, according to William Greene, sales manager.

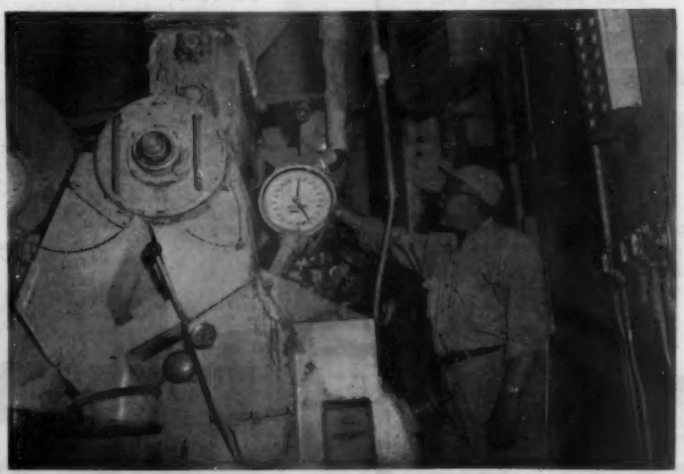
The pellet mill and other feed processing machinery play an important part, as does an agricultural technical service whereby the firm can handle about 95% of its poultry disease problems.

IOWA:

Long Grove—Bulk Feeds, Inc., was organized by Jim and Ted Driskell, Davenport, Iowa, restaurant owners, in 1959 when they could not find pelleted rations nearby for their cattle herds. Their new plant has a pellet mill with a capacity of 3 tons an hour.

Pelleted cattle feeds, including a

EDITOR'S NOTE: *The initial part of this series, which appeared in Feedstuffs Sept. 3, reported some of the influences pellets have had on feed manufacturing and selling and on feeding. This second and concluding article is in a more specific vein, dealing with case histories obtained from manufacturers and dealers during a tour of the Midwest and parts of the East.*



PELLETS IN MAJORITY—About 75% of the feed produced by Farmers Cooperative Elevator Co., Egan, S.D., is in pellet form. A co-op employee is shown here operating a 100 h.p. Wenger pellet mill.

ELANCO SPENDS A DAY WITH
CATTLE-FEED SALESMAN ELTON RUTLEDGE

Elton visits his company's well-equipped laboratory several times monthly. Here, he is discussing protein content of a feed with Francis Linneweh, Director of Laboratory. Silage of feeder-customers is often analyzed for protein and vitamin A content at the lab. This is a free service—used to help feeders balance their feeding program.

Elton holds 4 or 5 cattle feeder meetings every month. In addition to the meetings, Elton manages to visit with 30 to 40 feeders each week as he makes calls with territory salesmen.

Elton travels about 35,000 miles every year... puts in a 50-hour week covering the states of Missouri, Iowa, Kansas, Oklahoma, Nebraska, South Dakota, Colorado and Wyoming.

"Our feeders are using Stilbosol to cut costs and get better feed conversion"

"Stilbosol is a big part of a profitable feeding program," Rutledge volunteered, "and feeders make more money with it."

by Eugene S. Hahnel

Elton Rutledge is really Cattle Feed Department Manager for a large mill in Missouri. He is similar to a sales manager and calls on key feeders with territory salesmen. Elton is rounding out a quarter of a century of service with his company; so when it comes to "cattle talk," he speaks with authority.

"Our company was among the first to apply for adding Stilbosol to our feeds," Elton reported. "We fed it to our cattle on our research farm before Stilbosol was released for public use. We still feed it. It gives us more gain and better feed conversion. As a matter of fact, we can't afford to not feed Stilbosol.

"When we first came out with Stilbosol in our feeds, we had an instant increase in our tonnage. The addition of Stilbosol definitely helped our sales picture. It really gave us a competitive edge. Of course, this is not true today because most feeds contain stilbestrol," Elton continued.

"Our feeds containing Stilbosol do a job. Around the territory, the average daily gain of steers is about 2.5 to 3.0 pounds—with heifers, it's about 2.4 to 2.75 pounds," Elton concluded.

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grower and a fattener are produced. The firm also makes a pelleted starter for pigs up to 40 lb., a No. 2 ration for pigs 40 to 100 lb. and a No. 3 ration for hogs 100 to 150 lb. Pellets constitute 30% of the volume on these last two feeds.

Cherokee—In a new, large feed manufacturing plant, Walnut Grove Products Co. has two pellet mills, each capable of producing 12-15 tons per hour. About 80% of the firm's feed production is pelleted and much of it is bagged. A gas-fired Nebraska boiler furnishes steam for the pellet operations.

Preston and Oskaloosa — Preston (Iowa) Feed Mill and the J. H. Wake Feed Mill of Oskaloosa are two pioneers in the pelleting of feed in Iowa. Both have expanded their pellet operations in recent years.

Preston Feed Mill has been pelleting since 1947. Eighty per cent of its feed production is pelleted.

The Wake firm has been pelleting since 1946. It makes hard and soft pellets in its new plant. The firm makes its own brand of Circle Feeds, and supplies them in meal and pellet form to four branch stores, as well as merchandising them in the Oskaloosa area.

Klemme—The Klemme Cooperative Grain Co., according to Marvin Lemke, does a great deal of custom pelleting. The rate charged is 10¢ cwt.

Corn and oats are used in the hog and cattle pellets, along with other ingredients. Most of the corn brought to the plant for storage in the grain bank is already shelled. However, the firm has two driers which dry the corn to a No. 2 grade for use in mixed feeds. The firm has grain storage capacity of 382,000 bu.

Bancroft—In its new plant erected last November the Welp's Electronic Feed Mill has two 100 h.p. pellet mills, each one having a capacity of 8-10 tons per hour. Each pellet mill has its own elevator system, sifter, cooler, dust collector and crumblizer. The cooler on one mill is horizontal and on the other it is vertical.

The firm currently makes two sizes of pelleted feed—5/32 in. and 3/16 in. The company is also experimenting with the manufacture of a soft, cattle feed wafer with a high molasses content. About 85% of the feed produced at this mill is pelleted.

Feed men are studying the sales opportunities for pelleted feed and also are trying to figure the highest profit factors of processing.

Grand Mound—Mueller's Mill has been pelleting feeds for eight years, according to Walter Schmidt, foreman. The firm makes pelleted cattle and hog feeds incorporating grain. The customer response to pelleted feeds is excellent, so much so that 60% of all feeds sold are pelleted, Mr. Schmidt reports.

MINNESOTA:

Revere — Pelleted cattle and hog feeds are produced by the Revere Milling Co., owned by Richard Soll. The firm produces 3/16 in. pellets. Many of the feeders who buy pelleted feeds are subscribers to the Revere Milling Co. grain bank plan.

SOUTH DAKOTA:

Egan—About 75% of the feeds produced by Farmers Cooperative Elevator Co. are pelleted or crumblized, states O'Dean Brenden, general manager.

Many cattlemen in the region feed loose alfalfa hay with 35% beef concentrate on top, says Jim Heibult, mill foreman. No alfalfa hay is included in cattle pellets, but there is alfalfa in the firm's sheep feed pellets. Three dollars per ton is the charge for pelleting.

KENTUCKY:

Stanford — Baughman Milling Co. has no pellet mill, but does sell bagged pellet feed in its store and also jobs pellets in bags to many dealers in a 200-mile area. Pellet feeds are well accepted, say officials. The Baughman firm also makes a line of mixed feeds of its own.

Springfield — The Hayden Mill & Grain Co., which has a mill here and several branch stores in other areas, has been pelleting feeds for 11 years. Very little custom pelleting is done.

Germantown—Stanley A. Hill manager, Germantown Milling Co., said recently: "Pellet feeds are increasing all over the state of Kentucky. We sell egg mash, poultry, starting and growing mash, hog feeds and dairy feeds in pellet form.

"As we are primarily a flour and corn meal plant, we only job commercial feeds and do not own a pellet mill. Pelleted feed represents only about 15% of our volume, but five years ago it did not even represent 1%."

PENNSYLVANIA:

York—D. E. Horn & Co. has two 75 h.p. mills to produce pelleted feeds for many customers in the York area as well as for patrons served by its Red Branch, Pa., mill and store.

Pellet feeds constitute a large portion of this firm's production. Eighty dealers in the area stock Hornco meal and pellet feeds. The firm has 10 delivery trucks and also a 20-ton and a 16-ton trailer, plus a 12-ton Sprout-Waldron bulk truck.

Some corn is raised in this region, but the firm buys from other states. About 3,000 bu. are used in daily operations at York and a considerable portion goes into pelleted feeds.

VIRGINIA:

Harrisonburg — Rockingham Farm Bureau Cooperative has two small-capacity pellet mills in an old custom plant and charges 15¢ cwt. for custom pelleting. The firm also has a

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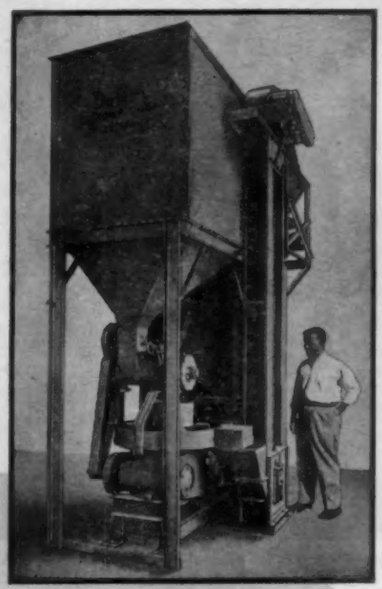

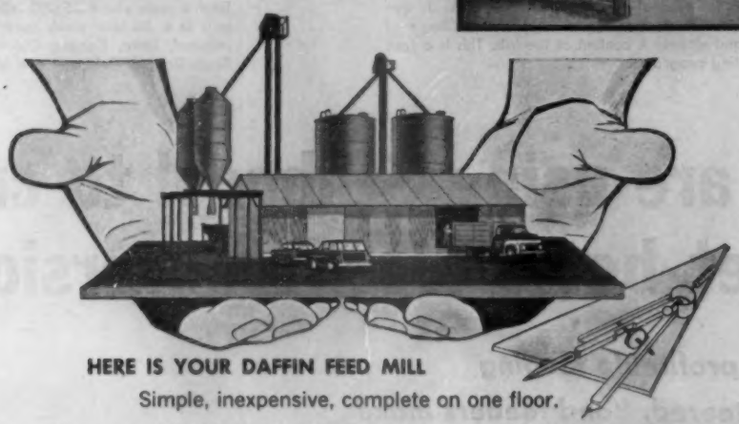

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An extremely stable vitamin K premix, NEW PROCESS HETROGEN K, was made available to the feed industry today by the Heterochemical Corporation of Valley Stream, L. I. Years of research and development went into the perfection of this new product which assures maximum stability of vitamin K premixes under the most adverse conditions of temperature and humidity. Under normal storage conditions NEW PROCESS HETROGEN K PREMIX† retained 98% potency while ordinary vitamin K premixes lost 30% of their labeled potency.

In accelerated storage tests where old style premixes of poor stability lost from 50% to 73% of their potency, NEW PROCESS HETROGEN K retained 92% potency. Feed manufacturers can now be assured that the potency in the bag matches the potency on the tag, whatever the storage circumstances.

Prices of NEW PROCESS HETROGEN K are competitive with ordinary vitamin K premixes now on the market. For many mill owners this can mean a reduction in vitamin K fortification costs by elimination of overfill and storage losses. A full range of potencies from 4 to 64 grams per pound are available on calcite or edible soymeal carriers.

MANAGEMENT SESSION—These men participated recently in a session on "Executive Development in Business Management" held at the University of Georgia at Athens and sponsored by the Southeastern Poultry & Egg Assn.

They are, left to right: John R. Hargreaves, Caroline Poultry Farms, Inc., Federalsburg, Md.; W. Sterling Carter, Grassy Knoll Hatchery, Charlottesville, Va.; Bennett Fuller, Rocco Feeds of Greenbrier, Inc., Ronceverte, W. Va.; Fred W. Gaddis, Fred Gaddis Industries, Forest, Miss.; Dr. H. R. Smith, school of business administration, University of Georgia; Ottis Eaham, Eaham Hatchery, Parsonburg, Md.; Ralph S. Newman, Jr., Rocco Feeds, Inc., Harrisonburg, Va.; T. H. Etheridge, R & R Milling Co., Carthage, Miss.; J. R. Gipson, 424 Center Avenue, Philadelphia, Miss.; Mrs. Margaret Lovette, Holly Farms Poultry Co., Wilkesboro, N.C.; Smith Johnston, J. H. Johnston Co., Woodstock, Ga.; Frank P. Bontz, Jr., Kwaliteed Hatchery, Inc., Harrisonburg, Va.; Lamont Nicholls, Varnell Milling Co., Dalton, Ga.; Troy G. Sloan, Jackson, Miss.; John D. Shaffer, Shaffer's, Inc., Woodstock, Va.; H. D. Weber, Arbor Acres, Glastonbury, Conn.; W. B. Woolsey, Jr., Dixie Home Corp., Shelbyville, Tenn.; Mrs. Bonnie Rhodes, Holly Farms Poultry Co., Wilkesboro, N.C.; Fred Masterson, Editor Broiler Growing, Cullman, Ala.; Bob Turner, Valley Poultry Co., Russellville, Ark., and Gerald Showalter, Cobb's Pedigreed Chicks, Gainesville, Ga. Not shown but attending: Richard Noles, poultry division, University of Georgia.

new 100 h.p. mill in a large new plant.

Accurate records kept on pellet production of this mill furnished the following data:

1. On a 30-day test, 1,006 tons of pellets of 12 different formulas were produced.

2. On a special four-hour run of broiler finisher the pellet mill did the following:

Started mill, 7:45 a.m.; stopped mill, 11:48 a.m.; running time, 4.05 hours; production, broiler finisher, 36 tons; production per hour, 8.888 tons, or 71.104 tons in 8 hours (estimate); man hours per ton, .1125 (industry average .168).

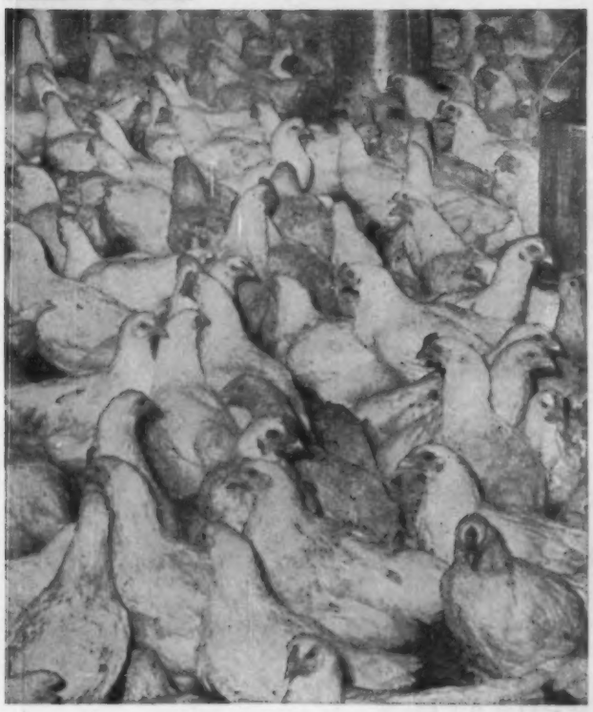
R. M. Hilbert, feed mill superintendent, said, "The larger the pellet order, the less expensive it is to run."

Over 60% of this firm's feed production is bagged. The cooperative also operates a new, large egg grading plant. A large tonnage of feed is sold to egg producers bringing eggs to the plant.

...the best known "secret" in the broiler industry

the arbor acres 50

■ DR. FRED MOULTRIE
...he developed the "50"



■ The Arbor Acres 50 originated in 1955 — one more promising crossbred for the Arbor Acres Cross Testing Program at Glastonbury. Under the direction of Dr Fred Moultrie the Arbor Acres research staff was working with several new birds each year. Their goal was a bird with the right combination of hybrid vigor, production and hatchability along with the ability — when mated with a proven male — to transmit outstanding growth and meat characteristics. The "50" proved successful on all counts, but only exhaustive field tests could prove conclusively that the new bird had met the challenge . . . that it had surpassed the Arbor Acres White Rock, the most successful broiler female yet developed.

■ In late 1958 test flocks were put out first at all Arbor Acres Divisions . . . and then on the farms of Arbor Acres customers in every important broiler area to subject the new bird to every kind of environment under commercial conditions. The results were so encouraging the secret could not be kept. Today broiler men everywhere are asking for Arbor Acres 50's and every resource of the world's largest breeder of meat-type females is being employed to satisfy the demand, but don't delay . . . call your Arbor Acres Representative *now* so that he may be better able to provide the delivery you want.

Breeding better birds AA Arbor Acres *for better business*

General Offices, Research: GLASTONBURY, CONN. • San Luis Obispo, Calif. • S ngdale, Ark. • Thorntown, Ind. Carthage, Miss. • Skowhegan, Me. • Tenaha. Tex. • Concord, N. C. • Albertville, a. • Blairsville, Ga. • Aprilia, Italy

Antibiotic Warning Requirement Issued

WASHINGTON — The Food and Drug Administration this week issued a warning-requirement regulation dealing with the use of certifiable antibiotics to treat milk-producing animals. It specifies, for one thing, that milk from animals treated with certifiable antibiotic drugs (other than those for intramammary application covered by other antibiotic regulations) should not be used for human consumption until a specified number of hours has elapsed since the last such treatment with such drugs.

The order is to become effective 90 days from its publication Aug. 31 in the Federal Register unless it is stayed by the filing of proper objections.

The regulation states:

"Whenever the labeling of an antibiotic drug included in the regulations of this chapter suggests or recommends its use in milk-producing animals, the label of such drugs shall bear either the statement 'Warning: Not for use in animals producing milk, since this use will result in contamination of the milk' or the statement, 'Warning: Milk taken from treated animals within ..... hours after the latest treatment must not be used for food,' and the blank has been filled in with the figure, which shall not be greater than 96, that the Commissioner has authorized the manufacturer of the drug to use. The Commissioner shall determine what such figure shall be from information submitted by the manufacturer and which the Commissioner considers is adequate to prove that period of time after the latest treatment that the milk from treated animals will contain no residues from use of the preparation. If the use of the antibiotic drug as recommended does not result in its appearance in the milk, neither of the above warning statements is required."

• • •

Official Tells of Antibiotic-in-Milk Tests by FDA

DENVER—A Food and Drug Administration official told the American Veterinary Medical Assn. at its recent meeting of tests showing antibiotics in milk of treated animals.

Dr. Laverne C. Harold, assistant veterinary medical director of FDA, said antibiotics may be found in cows' milk after they have been treated with mammary infusion products, oral or injectable preparations.

Dr. Harold said use of these products is necessary to protect the animal's health, but in the interests of public health, more information is needed on how long such preparations will be present in milk from a treated animal.

In connection with the talk, it has been observed that FDA is expected to order more controls on use of antibiotics in various ways, not just in intramammary application, to treat milk cows. (An order was issued this week on label warning requirements for certain antibiotics.)

Reporting at the AVMA meeting on FDA tests, Dr. Harold said tests were run on seven penicillin preparations injected into the muscle tissue of cows.

With each animal milked twice a day, all treated cows showed penicillin contamination of their milk. Four of the preparations were undetectable 96 hours after injection while the remaining three samples were detectable up to 10¼ days after the final injection.

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BEET PULP
AND 44 OTHER FEEDS

Study Commercial Feed Use in Iowa

DES MOINES—A total of 82.4% of the farm readers of the Des Moines Sunday Register use a commercial feed, according to the seventh Iowa Brand Inventory conducted by that newspaper.

Conducted from a sample of the half million Sunday Register families, the Iowa Brand Inventory reports the standings of 173 products. Responses were used in proportion to the county-by-county circulation of the newspaper. A projection of the results lists 100,828 farm families as commercial feed users.

Leading the field in commercial feeds was Felco with 13.8% of the families using that brand. In a close second and third position were: Wayne with 10.5 and Purina with 10.1%.

Rankings of the feeds down to 2% are listed by company below. Those commercial feeds with less than 2% are included in the "other brands" classification.

The brand total for all feeds came to 128.1% of use. This is due to the fact that some farm families reported using more than one brand of commercial feed, the newspaper states.

Commercial Feed in Iowa

	Farm, 1960
Per cent of use	82.4%
Families using	100,828
Felco	13.8
Wayne	10.5
Purina	10.1
Moorman	8.8
Kent	6.2
Nutrena	5.3
Walnut Grove	5.2
Co-op	5.0
Gooch's	4.8
Supersweet	4.5
Rath's	2.8
Golden Sun	2.7
Larro	2.5
Nixon's	2.3
Master Mix	2.3
Hubbard's Sunshine	2.1
Other Brands	39.2
Brand totals	128.1

Adamson Heads Citrus Products Unit Sales

ORLANDO, FLA. — Minute Maid Corp. has announced the appointment of John S. Adamson as director of sales for the company's citrus products division.

J. S. Adamson

Mr. Adamson takes the position formerly held by Gerald D. Bartrem, who has been appointed to the newly-created position of vice president of sales and marketing for Minute Maid International, a subsidiary of the manufacturer of citrus products.

Mr. Adamson, who formerly was assistant director of sales of the citrus products division, is a veteran of 15 years of citrus sales on the West Coast. He joined Minute Maid last year to develop sales, new market and promotion activities for the citrus products division, which produces and markets a full line of Florida, Arizona and California citrus oils, beverage bases, bakery and ice cream purees, molasses, cattle feed and other custom-packed citrus specialties.

Committee Named

RALEIGH, N.C.—A committee has been named to recommend a successor to Dr. E. W. Glazener as head of the North Carolina State College poultry science department. Dr. J. Ed Legates of the animal industry department at the college is chairman of the committee. Other members are Dr. R. A. King, agricultural economics department; Dr. G. A. Martin, Dr. J. W. Kelly, C. F. Parrish and Dr. C. W. Barber, all of the poultry science department.

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Vitab®
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"I wouldn't want to be in the feed business without the Purina Franchise," says Mr. Schier.

"Service brought rapid growth to our Purina Service Center"

—*says Clarence Schier, Schier Feed and Supply Company, Sealy, Texas*

When Clarence Schier opened his Purina Service Center in 1946, his principal asset was an earnest desire to be of service to farmers and ranchers of the Sealy area. His business grew.

Today, Schier Feed and Supply Company has Purina Service Centers in Sealy and Brookshire, two Check-R-Mills in Sealy, one mill in Brookshire. To expand the policy of service, Schier's has a crew of employees capable of carrying out their assignments. Eleven of them are Purina-trained.

Results of Schier service are seen in the long list of "firsts" for the organization. Schier's had the first Check-R-Mix service in the area . . . put on the first split-steer demonstration in Texas . . . introduced caged hens . . . brought the "Pig Parlor" plan of pork production to the area . . . influenced creep feeding of cattle.

Schier's continues to grow and the growth is based on expanding services.

* * * *

"We started our business with a few hundred dollars," says Mr. Schier, "and it would not be where it is today without the 'partnership' relations we have with Gregg Lewis, our Purina Salesman. He helps us with group meetings, employee training, on-the-farm selling and in business management."

Kenneth Remmert, one of three Purina-trained outside sales-service men, reviews the merits of Purina Stock Spray with Cattleman Ed Kaechele, a long-time Schier customer.

Bruce Viereck and Cattleman Arthur Robichaux discuss the value of creep feeding. Mr. Viereck, of Schier's Brookshire staff, helped design the creep feeders.

Jim Ludwig, center, is a mill operator in one of three Schier Check-R-Mix plants. Elroy McFarland and A. C. Hill are his helpers.

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NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7110—Fan Cooled Motor

Brook Motor Corp. has introduced a single phase motor that is totally enclosed and fan cooled. It has capacities from 1 h.p. to 5 h.p. Internal fans, the company says, cast integrally with the rotor, recirculate internal air and eliminate hot spots. A large external fan, protected by a hood, blasts air over the heat-dissipating fins which are cast integrally with the frame. No dust or moisture can enter the motor. Condensate inside the motor can be bled

off by means of two plugged openings. An external centrifugal switch has been mounted on the outside of the motor. The same switch fits all sizes of motors. It is not necessary to disassemble the motor or remove it from line for switch repairs, the company says. Design is such that switch positively disengages when motor has attained pre-set speed, so that there is no danger of motor operating on both starting and running current simultaneously, the company says. For more complete details, check No. 7110 on the coupon and mail.

No. 7114—Grubicide Supplement

Plans are being made by the Moorman Manufacturing Co. to make available a complete mineral supplement containing a grubicide. The use of the grubicide in the supplement has been cleared by the U.S. Department of Agriculture and the Food & Drug Administration, the company says. The product, "Rid-Ezy," contains ronnel, an organic phosphate compound that acts systemically, killing grubs as they migrate through the body system of cattle and before they appear in the animals' backs, the company says. Company tests show that 14 days' feeding killed 90% or more of the grubs. For information, check No. 7114 on the coupon and mail.

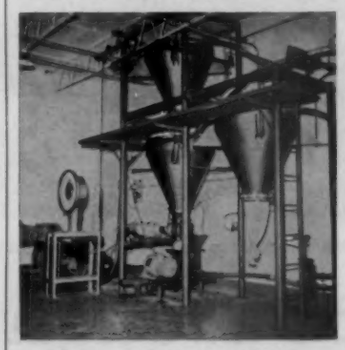
No. 7112—New Crossbred Pullet

Commercial production of the Arbor Acres 50, a crossbred pullet for the broiler industry which, it is claimed, exceeds the performance of the Arbor Acres White Rock, has been announced by Arbor Acres Farm, Inc. The AA50, Arbor Acres officials say, excels in livability, egg production and hatchability. For more information, check No. 7112 on the coupon and mail.

No. 7113—Research Laboratory

A research laboratory, designed for full-scale testing of air conveying systems, has been completed by Flo-Tronics, Inc. The laboratory will allow company engineers and potential customers to test and evaluate materials handling problems with any type of material, the company says.

It will be of particular interest to engineers of the chemical, food, feed, milling and processing industries, the company says. The facility consists of an actual working system made up



of "Sweep-Flo" fluidizing units, rotary airlocks, a "puffless" bag dump, "Flo-seal" line diverters, scaling equipment and transistorized electronic process control panels. Installations up to 450 ft. long can be duplicated. Flow characteristics, material-to-air ratios, horsepower requirements and equipment performances of all kinds of materials can be obtained under regular operating conditions. For details, check No. 7113 on the coupon and mail.

No. 7108—Molasses Mixer

Seco, Inc., announces the "Twin Molasses Mixer Model S-75" designed for high-capacity molasses blending of feed. The model is built for up to five tons an hour capacity. It has a special rotor system which assures no balling or lumping, the company says. A self-cleaning feature is incorporated in the unit. It has a 10 h.p. motor and a 3 h.p. pumping system. According to company literature the compact unit can be easily installed in any existing feed milling facility —either as a one or two-level floor plan. It has two rotor shafts and 36 paddles. A variable speed auger-feeder assures a uniform flow of any type feed, the company says. For additional information check No. 7108 on the coupon and mail.

No. 7109—Range Block Press

Landers Mill Manufacturing Co. and Landers Machine Co. announce a fully-automatic, single cylinder "Range Block Press." The "Block-Matic" is capable of producing 300 molded range blocks (8½ in. by 8½ in. by 11½ in.) every hour, the company says. The unit has a three-speed operation so it can be run at a one-block-per-minute speed if desired. The angle design of the unit permits automatic loading of mineral and protein feeds from scales. Blocks are molded by 75 or 100-ton hydraulic

pressure, and are then gravity-conveyed onto the wrapping table or conveyor belt. The unit's operation can be handled by one man. Complete engineering, installation and parts service is offered by the company. For details, check No. 7109 on the coupon and mail.

No. 7111—Calf Milk Replacer

Introduction of a high-fat calf milk replacer that will be marketed to feed manufacturers on a private label basis has been announced by Borden Special Products Co., feed supplements division. The replacer has nutritional characteritics patterned after the amino acids, vitamins and minerals of dried whole milk, the company says. It is a blend of milk nutrients (60%) and cereal protein. Stabilized choice white grease is used as a source of fat, which is guaranteed at 10%. Stabilized vitamins A and D-2 are added at 10,000 units per pound and 2,000 units per pound, respectively, and chlortetracycline is guaranteed at 25 mg. per pound. The company has incorporated pharmaceutical grades of lecithin and tricalcium phosphate to enhance the suspension characteristics of the reconstituted milk replacer. The product is available in 25-lb. and 50-lb. bags and 25-lb. pails. For details, check No. 7111 and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7057—Swine management materials, SIU Foundation.

No. 7058—Feeder, rotary valve bulletin, Fuller Co.

No. 7059—Face fly repellent, Myzon Laboratories.

No. 7060—Rolling egg cart, Big Dutchman Automatic Poultry Feeder Co.

No. 7061—Bulk truck information, Sprout, Waldron & Co., Inc.

No. 7062 — Magnesium bins, Tote System, Inc.

No. 7063 — Storage bin payment plan, Ripco Air Systems

No. 7064 — Mill service brochure, U. E. Fitzpatrick & Co.

No. 7065—Special Pen-FZ promotion, Hess & Clark

No. 7066 — Control panel system, Shanzer Manufacturing Co.

No. 7067 — Three section probe, Burrows Equipment Co.

No. 7068—Treatment for sinusitis, Hess & Clark, Inc.

No. 7069 — Chain poultry feeder, James Manufacturing Co.

No. 7070 — Steel cable socket, Brooks Machine & Mfg. Co.

No. 7071 — New bulk body model, Winger Manufacturing Co.

No. 7072—Portable sprayer, O. W. Kromer Co.

No. 7073—Antibiotic bulletin, Abbott Laboratories

No. 7074—Self-unloading feed body, Baughman Mfg. Co.

No. 7075—New UGF source, Chas. Pfizer & Co., Inc.

Send me information on the items marked:

- ☐ No. 7108—Molasses Mixer
- ☐ No. 7109—Range Block Press
- ☐ No. 7110—Fan Cooled Motor
- ☐ No. 7111—Calf Milk Replacer
- ☐ No. 7112—New Crossbred Pullet
- ☐ No. 7113—Research Laboratory
- ☐ No. 7114—Grubicide Supplement

Others (list numbers) .....

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No. 7076 — Moisture tester check, Seedburo Equipment Co.

No. 7077 — Power shovel hook, Brooks Machine & Mfg. Co.

No. 7078—Patented feeder, Day Co.

No. 7079—Antibiotic bulletin, Abbott Laboratories.

No. 7080 — Grain expander, The V. D. Anderson Co.

No. 7081 — Utility body bulletin, Baughman Manufacturing Co.

No. 7082—Enzyme hydrolyzed casein, Amber Laboratories, Inc.

No. 7083 — Batch mixing muller, Frederic B. Stevens, Inc.

No. 7084—Organic digester, Ryter Corp.

No. 7085—National parts service.

No. 7086—Egg color film, Hess & Clark.

No. 7087—Vitamin E Product, Merck & Co., Inc.

No. 7088—Trace Mineral Salt, Morton Salt Co.

No. 7089—Bulk truck control lever, Productive Acres Manufacturing Co.

No. 7090—Packaging guide, Bemis Bro. Bag Co.

No. 7091 — Truck scale, Toledo Scale, Division of Toledo Scale Corp.

No. 7092 — Mixer, blender article, Sprout, Waldron & Co., Inc.

No. 7093 — Elevator construction booklet, Weitz-Hettelsater Engineers.

No. 7094 — Bulk feed bin bottom, Brock Manufacturing, Inc.

No. 7095—Terramycin vitamin crumbles, Chas. Pfizer & Co., Inc.

No. 7096 — "Twin-Pack" Poultry medication, Dr. Salsbury's Laboratories.

No. 7097 — Grain dryer, Daycom. Inc.

Farmers Advised to 'Brand' Stored Grain

FARGO, N.D.—Grain storage specialists at the North Dakota Agricultural College are recommending that farmers "brand" their stored grain. The North Dakota Crop Improvement Assn. is sponsoring the plan for the protection of grain going into winter storage.

One way to brand stored grain, and cut down the risk of losing it to thieves, is with paper confetti. The confetti contains three numbers, explains L. A. Jensen, extension agronomist at North Dakota. The first number designates the state, the second the county and the third specifies the grower.

The numbered confetti can be mixed throughout the bin as it is being filled or it can be scattered on top and worked into the surface layer of the grain. Some farmers have been using colored beans or peas for this purpose.

The system has been tried in Montana and, according to a recent report, is doing the job. No branded grain is known to have been stolen in the area so far.

A private firm in North Dakota has agreed to keep a complete register of all grower and county numbers and will also notify local elevators, and county sheriffs of number assignments made to growers. This firm is also providing the confetti.

The amount of confetti added per bin is small and is easily removed when cleaning the grain before processing. The grain trade and the Federal Food and Drug Administration have indicated they will not object to the practice, according to the report.

PROTEIN

(Continued from page 35)

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Farm Price-Support Program Studied by Michigan Economist

EAST LANSING, MICH. — "The net effect of the Commodity Credit Corporation support program has been to reduce the domestic market supply in every crop year except 1950," reports Dale Hathaway, agricultural economist at Michigan State University.

Mr. Hathaway, to assess the impact of the farm price-support program, has determined the amounts of various price-supported crops that were actually available in commercial markets for particular crop years.

The study relates for the first time the total effect of purchases, sales and exports by the CCC to estimates of farm production.

Market prices probably are most influenced by the amounts of a product actually in commercial channels. Mr. Hathaway believes that the Michigan statistics more nearly give a true picture of these amounts than any measure now available.

These statistics cover the 1948-56 period. Tables for the 1957-59 period are expected to be completed this fall.

CCC acquisitions amounted to 9% of total farm output in 1948 and about 5% in 1949. The demands created by the Korean War reduced CCC purchases. However, they rose sharply in 1952, and in 1953, they amounted to more than 10% of farm output. Acquisitions continued high during the next three years, according to the study.

Exports gave an important outlet for surplus CCC stocks during most of this period. With the exception of the 1950-51 period, CCC disposal of products in the U.S. market has never exceeded 2% of net farm output.

Exports accounted for one-half or more of CCC disposals in every year but 1953 during the 1949-56 period. While domestic disposals have not increased substantially since 1953, exports from CCC stocks exceeded 1953 levels by 17 times in 1956.

The study covered corn, wheat, cotton, rice, peanuts, tobacco, dairy products, potatoes and oilseeds. A system of tables and indexes was worked out so that the available commercial market amounts of each crop could be found from these existing reports.

The Michigan statistics suggest that the problem of surpluses began in each of the major crops at about the same time—during the 1948 crop marketing year instead of in 1952 as had been believed.

Results of the study are in a technical bulletin published by the Michigan agricultural experiment station.

GRAIN BIN PLANNED

CARROLLTON, TEXAS — The Blanton Grain Co. will erect a 300,000 bu. grain bin here.

Dannen Mills Names Elevator Manager

MARYVILLE, MO.—Dannen Mills has named Edward Meyer manager of its elevator here. He succeeds Melvin Bullock, who died of a heart attack while on a fishing trip in Canada.

Edward Meyer

Mr. Meyer has been connected with the elevator since 1952 and has been assistant manager since 1957. The Maryville elevator, the oldest in the country station division of Dannen Mills, was built by the company in 1938. It now has a storage capacity of 200,000 bu. and handles feed, fertilizer and ingredients.

West Virginia Sales Of Feedstuffs Off

CHARLESTON, W. VA. — There was a decrease of 14% in the tonnage of commercial feedstuffs sold in West Virginia during the last six months of 1959, according to the West Virginia Department of Agriculture. Sales totaled 163,219 tons, down 26,479 tons from the corresponding period of 1958. Retail value of these feeds was estimated at $15,659,346 compared to $18,840,226 for the last half of 1958.

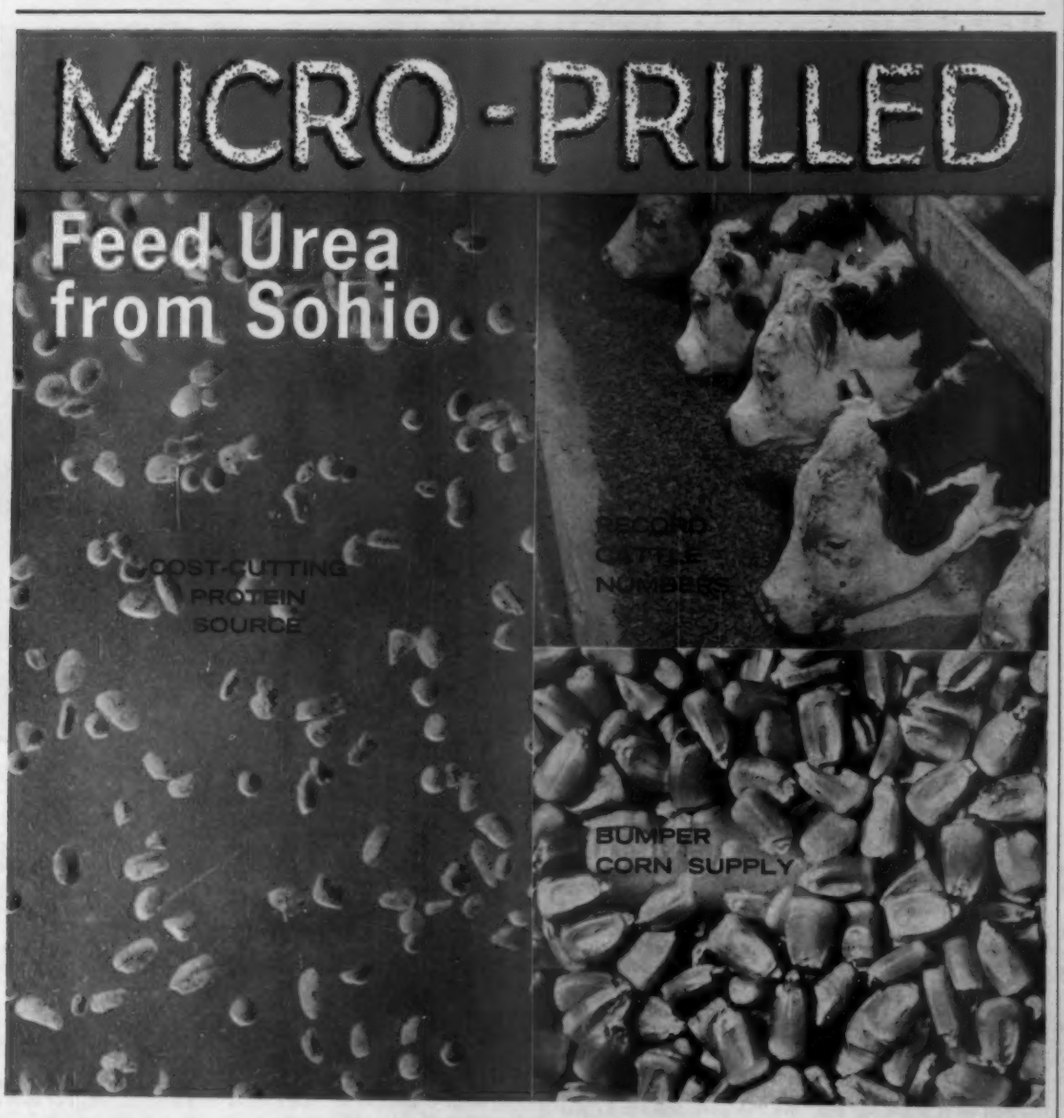
Poultry feeds ranked first in importance and totaled 89,877 tons for 55% of all feeds sold. Prepared cattle feed tonnage was second with 31,037 tons or 19%. Ingredients for miscellaneous livestock feeds and food for pets made up the remaining tonnage. As compared with the last half of 1958, tonnages of all major feeds were lower except laying mash and wheat mill products.

The department also reported that most retail feed prices during the last half of 1959 averaged slightly lower than during the comparable period of 1958 except for poultry feeds which were sharply lower. Cottonseed meal prices were unchanged while soybean meal was $2 per ton lower. Money spent for rabbit and pet foods amounted to nearly 13% of the total sales.

Commercial Feeding Stuffs Sold in West Virginia
July 1, 1959 to Dec. 31, 1959

Kind of feed	6 Mo. total tons	% by kinds %
Dairy	29,052	17.8
Calf	930	.6
Beef	1,009	.6
Misc. cattle	46	**
Total cattle	31,037	19.0
Laying mash	31,882	19.5
Chick feed	5,866	3.6
Broilers	35,104	21.5
Turkeys	10,103	6.2
Scratch grains	6,922	4.3
Total poultry	89,877	55.1
Hog	9,299	5.7
Horse	3,909	2.4
Sheep and goat	392	.2
Misc. livestock	243	.2
Total other livestock	13,843	8.5
Total livestock and poultry feed	134,757	82.6
Rabbit	482	.3
Dog	6,659	4.1
Cat	500	.3
Fish	12	**
Bird	110	.1
Total rabbit and pet	7,763	4.8
Wheat mill products	8,846	5.4
Rye and oat mill products	90	.1
Corn products	8,374	5.1
Grain mixtures	614	.4
Brewers grains	166	.1
Total grain products	18,090	11.1
Alfalfa meal	42	**
Beet and citrus pulp	147	.1
Cottonseed meal	309	.2
Linseed oil meal	49	**
Fish meal, tankage and meat scraps	176	.1
Soybean oil meal	964	.6
Total protein feeds	1,687	1.0
Total minerals	922	.5
Total, all feeds	163,219	100.0

**Less than 0.1%.



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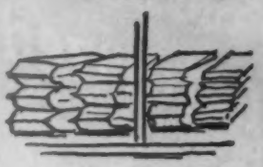

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A WEEKLY NEWSPAPER
For the Feed Manufacturer, Feed Jobber
Feed Broker and Feed Dealer

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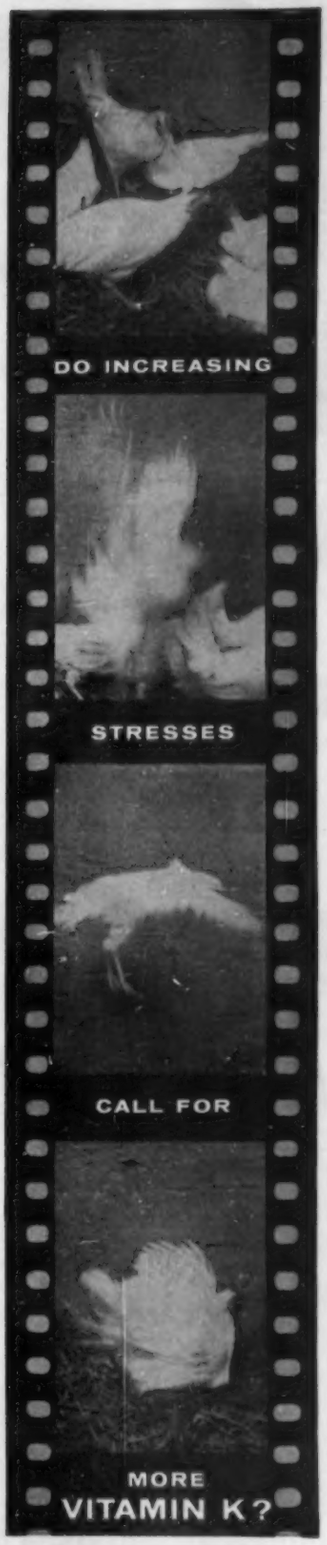

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Mutual Millers Hold Summer Convention

JAMESTOWN, N.Y. — Activities for the Mutual Millers & Feed Dealers Assn. summer convention here ranged from serious to comical. The convention included: A speech by Marvin L. McLain, assistant secretary of agriculture; a talk on "Who Shall Survive?" in the retail feed business; election of board members and a golf tournament.

In his talk on "Who Shall Survive?" Donald R. Huckle, director of nutrition, Cooperative Feed Dealers, Binghamton, N.Y., told the group that the dealer who survives will be the one who is not the "Jack of All Trades and Master of None" but a "Jack of All Trades" with a good, sound working knowledge of the trades he needs.

He further commented that the survivor will be the one who knows where to get help in the various fields when he needs it. "He'll be the one who keeps up-to-date in talking to other feed men in his area," Mr. Huckle continued, "in attending feed industry meetings and in putting to use the proven recommendations of colleges and experimental stations if they apply in his area. He'll also be the one who keeps up-to-date by supporting his feed organizations and by reading the trade magazines, clipping those articles which he can use in the future to be filed in a usable reference file. You may think that the feed man described above is 'Utopian', but there are successful feed merchants in this area. They're successful now and they'll continue to be successful because they know where they're going and they know how to get there. I hope you'll think about out dealer alphabet. Think about whether you qualify. If you don't qualify, do something about it now."

Mr. Huckle included in his definition of a retail feed merchant one who manufactures mixed feeds and sells them to feeders in his own retail outlets. "We do not intend to include wholesale feed manufacturers as such, even though some of the above may do some wholesale business," the nutritionist stated.

Dealer Alphabet

The alphabet Mr. Huckle gave the feed men follows: The feed man must be A, accountant and aggressive; B, banker (to the extent of keeping credit in line); C, competitor; D, decision-maker; E, efficiency expert, energizer (to keep employees on their toes) and entomologist; F, fighter; G, general (to lay out and direct a plan of action); H, housekeeper, host, hero and ham; I, intelligent and indulgent; J, judge and juggler; K, king; L, leader; M, manager; N, nutritionist; O, operator; P, purchasing agent, perfectionist, psychiatrist and public relations expert; Q, quiescent; R, researcher and responsible; S, statistician; T, thinker; U, "you" (the surviving feed man will know himself); V, veterinarian; W, worker; and XYZ, "xtras yet zeroing in on the dealer."

Directors Elected

In the business meeting of the organization, Harry Koerselman, Meyerink Milling Co., Clymer, N.Y., was appointed to the unexpired director post of George Edmunds, Sherman Steam Mills, Sherman, N.Y. Directors re-elected were: Stanley Hitchings, Griggs & Ball Co., East Aurora, N.Y.; Donald Mattison, James H. Gray Milling Co., Inc., Cattaraugus, N.Y., and Leonard Thiele, Thiele Coal & Feed, Inc., North Tonawanda, N.Y.

In the golf tournament, winner of the Harry Whitehead trophy went to Pete Worz, General Mills, Inc., holder of the low net score. Prize for the first low gross went to Rennie Merritt, Griggs and Ball Co., East Aurora, N.Y.

USDA Egg Program Debated in Florida

OCALA, FLA. — Action has been postponed on a suggestion that the Florida Egg Commission endorse promotion of a U.S. Department of Agriculture "Fresh fancy A-A" egg sale program in Florida.

Tom Mullin, head of the egg and poultry division of the Florida Department of Agriculture, has asked that the egg program be endorsed by the state. A spokesman for the commission reports, however, that the group is being confronted with strong objections to the proposal.

"Other states leading in egg production have adopted it," said Mr. Mullin, "and Florida poultrymen are going to be competing with shipped eggs bearing the USDA's double-A shield of approval. This is S-Day (survival day) for the poultrymen in Florida."

Carroll Waechter, Jacksonville egg dealer, said he had doubts that the federal egg certification program would have much benefit for Florida producers.

"Brand names mean far more than any USDA stamp," he argued, "and what the industry needs is larger assessments against producers with which to raise funds for promoting the sale of eggs generally in Florida."

Fun Day Golf Winners

MENDOTA, MINN.—Ed Cashman, Feed Service Co., Mankato, Minn., and Pat Loy, Master Mix Feeds, Madison, Wis., won top honors in the golf tournament held in conjunction with the Northwest Feed Manufacturers Assn.'s recent Fun Day at Lost Spur Ranch Club here (Feedstuffs, Aug. 27).

Mr. Cashman turned in the low gross score and Mr. Loy shot the low net.

Allied Mills Promotes Man in Sales Training

CHICAGO—The appointment of J. E. Williams as assistant director of sales training for Allied Mills, Inc. has been announced by E. D. Griffin, vice president in charge of sales.

J. E. Williams

Mr. Williams is a native of Arkansas and a graduate of the University of Arkansas. After several years experience as vocational agriculture instructor, he joined Allied Mills in 1954, serving as assistant district sales manager in the Memphis office.

Mr. Williams has had extensive experience in supervision of company stores, field work, and assistance to salesmen, as well as sales supervision. In his new position, he will assist W. H. Wallace, director of sales training in all sales and dealer training work.

St. Joseph Tourney Won with 75 Score

ST. JOSEPH, MO. — Don Provow, Morton Salt Co., with a 75 was the low gross winner at the golf outing of the St. Joseph Feed, Seed, Grain & Fertilizer Club at the Moila Country Club. Low net honors went to Wayne Schackmann, Thompson-Hayward Chemical Co. Other winners were Earl Branson, Earl Branson Co.; Jack Coup, Allied Paper Bag Co.; E. P. Miller, General Mills; Herb Whittaker, Whittaker Feed Co., Marysville; Edward Hoover, Missouri Pacific Railroad, and Ken Houston, Houston Feed Co.

There were 28 golf players for the tournament and about 40 attended the social hour and dinner in the evening. Door prizes of canned hams were presented to six members and guests.

Ray Gould, Dannen Mills, Inc., the new president of the club, outlined the programs planned for the current year, which began in July. Joe Joffem, Dannen Mills, Inc., program chairman, made arrangements for the golf outing and distributed the prizes.

Dehydrated **ALFALFA MEAL** High Carotene
From the Fertile Red River Valley of Minnesota
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RED RIVER ALFALFA CO.
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THE NEW LINE-UP AT TYSON'S FEEDS
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Dealer-to-customer service . . . fast and economical . . . with Baughman automatic self-unloading bulk feed bodies. Cost-cutting performance features include:
- RUGGED, EASY-TO-MAINTAIN BODY CONSTRUCTION, with fewer working parts . . . you save on maintenance.
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- CHOICE OF LENGTHS AND CAPACITIES to "tailor-fit" your particular delivery needs.

Better Service Through Better Engineering.
Service and Parts From 200 Service Branches.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Chlortetracycline and Oxytetracycline at High Levels in a Protein Supplement for Growing-Finishing Swine.

● J. H. Conrad and W. M. Beeson, Purdue University; Journal of Animal Science, Vol. 19, No. 2, pp. 363-367, May, 1960.

ABSTRACT AND COMMENT

This report deals directly with a problem and question that feed men have had on their minds for sometime, namely, "When free-choice-fed high protein supplements are the only means of supplying antibiotics to growing-finishing swine, are the high levels of antibiotics necessary as effective in promoting responses as when complete rations are used?" Since most of the research dealing with responses of antibiotics in growing-finishing swine has been conducted using complete rations the answer to this question is of practical value.

A total of 144 Duroc weanling pigs were allotted to 12 lots of pigs on the basis of age, sex, liveweight and general appearance. The pigs were farrowed on concrete and placed on rye pasture at 7 days of age. Until they were started on the experiment, all pigs received a ration which contained 40 gm. of chlortetracycline per ton of feed from the time they were two weeks of age. All 12 lots were fed shelled corn and Purdue Supplement 2 (47.5% soybean oil meal (44% protein), 40% meat and bone scrap, 10% alfalfa meal, 2% salt (iodized), 0.25% Vitamin B_{12} supplement and 0.25% B-vitamin supplement) free-choice, with 6 lots fed on concrete (30 x 40 feet per lot) and 6 lots fed on alfalfa-ladino clover pasture (1 acre per lot). Chlortetracycline was added at levels of 0, 50, 100, 150, 200 and 250 gm. per ton for pigs on concrete. Similarly, those on pasture were fed oxytetracycline at levels as above for chlortetracycline.

The results secured showed that the environment of the pigs was important in determining the degree of the response from antibiotics—a point often proved in past research with many species of animals, but which is oftentimes forgotten in practical application. For example, the gain response promoted by Aureomycin for pigs on concrete varied from 6.6% to 11.8% over the controls, and was highly significant, on the average; on the other hand, the gain response stimulated by Terramycin fed groups on pasture was not statistically significant on the average, and varied from 2.7% to 8.0% more than the control. Obviously, pigs on concrete and in fairly closely confined quarters are usually subject to more "stresses" than those on pasture, and this accounts for the difference in responses between the groups. The fact that different antibiotics were fed to pasture and concrete lots probably does not appreciably affect the results, since responses from these two antibiotics when fed in direct comparison to growing and finishing hogs are quite similar.

It is also interesting to note that there were no significant differences obtained in gain by furnishing greater than 50 grams of antibiotic in the protein supplement to the pigs on concrete. Pigs in the various treated lots in this group consumed from 6.8 to 33.2 gm. of chlortetracycline per ton of total feed. The pigs in pasture treated lots consumed from 6.5 gm. to 25 gm. of oxytetracycline per ton of total feed. It is interesting to note that the lower level of antibiotic (50 grams) in the protein supplement resulted in consumption levels of total ration antibiotic somewhat less than those generally accepted today as promoting best gains—namely, 10 to 15 grams per ton of total ration. There is some indication that levels higher than 50 grams of antibiotic per ton of protein supplement trended to better results with the pigs on concrete, with the 100 gram level fully equal to higher Aureomycin. This level resulted in a consumption of 12 grams per ton of total ration, well within present recommended levels.

On this basis, we need have no fear that having to put the antibiotics in high protein supplements at fairly high levels impairs their performance. Also, it appears that 50 grams to 100 grams of antibiotic are advisable for high-protein supplements to be fed free-choice to pigs on concrete. The higher level may produce slightly better gain results, but the additional cost may be uneconomical in certain instances. Whether or not to add antibiotics to pasture-fed high

Can you risk without

...when scientists say:

nf-180 controls more turkey diseases than any other drug

Because of nf-180's wide-range disease protection, its use in medicating poult starter feeds is almost universal. But if you are financing turkeys, it is during the *growing and finishing* periods that you have considerable money tied up in feed. This is when nf-180 protection is *particularly vital.*

nf-180 continuous feeding protects birds against so many disease and stress troubles that increase risk during growing and finishing. At the same time, nf-180 protects your company's investment and your feed's reputation.

And in the long run, nf-180 protective feeding most likely *costs less* than treating troubles as they occur. nf-180 protection costs just a few pennies a bird. Without it, high-priced servicemen can burn up a lot of time and gas making trouble calls. Then by the time a specific diagnosis is made, disease has already taken a heavy toll in mortality and stunting.

nf-180 frees turkeys of the constant disease drag. Birds grow faster and convert feed more efficiently. All in all, the income-boosting, worry-reducing advantages of nf-180 mean happy customers . . . and bring new ones, too.

Compare nf-180 with other turkey feed medications

DRUG	Growth Stimulation	Typhoid & Pullorum	Parocolon	Paratyphoid	C. R. D.	Blue Comb	Hexamitiasis	Synovitis	Ulcerative Enteritis	Blackhead	Stress Periods
*nf-180 (furazolidone) Level (grams)	YES 7½-10	YES P-50 T-100	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100
Chlortetracycline	YES	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES
Oxytetracycline	YES	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES
Bacitracin	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	YES
Penicillin and Streptomycin	YES	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO
Penicillin	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO
12½ Penicillin plus 37½ Bacitracin	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	YES
Erythromycin Stearate	NO	NO	NO	NO	P-? T-YES	P-? T-YES	NO	P-? T-YES	NO	NO	NO
2—Acetylamino 5—Nitrothiazole	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-YES	NO
4—Nitrophenyl Arsonic Acid	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-NO	NO
Carbasone	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-YES	NO
A Sulfa—Tin—Arsenical Comb.	YES	P-? T-NO	NO	NO	NO	P-YES T-NO	P-YES T-NO	NO	NO	NO	NO

KEY — P: Prevention T: Treatment *Each pound of nf-180 Concentrate contains 50 grams of furazolidone

Mill or Elevator design and construction. Milling Plants, Storage, Grain Elevators, Warehouses.
Frame or Fireproof Construction
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protein supplements will depend quite a bit on the likely stresses encountered in the particular feeding situation. Feed manufacturers might be wise to include them where competitive pricing situations permit them to do so. Individual farmers probably should evaluate their own situation carefully.

•

Timely and Worth Noting

There is a considerable amount of interest and research at present in means and methods of controlling the estrus and ovulation in swine by administration of various effective compounds. The basis of this work extends backwards over a span of at least 20 years and has involved fundamental research conducted at many stations throughout this country as well as those in several foreign countries. The ideal of control would be by administration of such active compounds through the feed. That we may not be too far away from the realization of such dreams is evidenced by a report in the May, 1960 issue of the Journal of Animal Science by J. E. Nellor of Michigan State University (pp. 412-420) to the effect that control of estrus and ovulation has been obtained in mature gilts by the twice-a-day feeding of 6-methyl-17-acetoxyprogesterone. The twice-a-day feeding of 0.8 to 1.6 mg. of this compound per pound of body weight resulted in complete inhibition of estrus and follicular growth during the treatment period. Estrus occurred, on the average, 4.4 days from the end of treatment, and the start of estrus was synchronized within a 36 hour period. Autopsy following this controlled estrus demonstrated that ovulation had occurred.

Furthermore, it was shown that immature gilts receiving 1.6 mg. of 6-methyl-17-acetoxyprogesterone for 10 days followed by the subcutaneous injection of 1,000 I.U. of equine gonadotropin came into estrus within a 12 hour period 4 days following the injection. Autopsy 24 to 36 hours after the start of the induced estrus indicated that the follicular development and subsequent ovulation were normal.

Although these studies were conducted on a limited number of gilts, there were no instances of induced ovarian abnormalities as have been reported to occur previously in the literature when estrus cycles of swine have been influenced by daily injections of progesterone. Obviously, the practical field application of this research will have to await further experimentation, clearance by the proper officials, and testing by the industry. Nevertheless, it is heartening to observe that control of estrus and ovulation may become a reality by the in-the-feed method. It will not only mean that feed men will have still another means of promoting increased tonnage and sales, but also it will mean much to hog men to be able to control breeding in such a manner that farrowing dates can be bunched within a narrow period of time. With large-scale agribusiness hog men this problem can become acute, and a ready solution has been long sought.

Feed Brokerage Firm Opens in Illinois

DANVILLE, ILL. — Opening of a feed brokerage firm here has been announced by Wendell Hall. Mr. Hall says that the firm will serve the feed trade as broker and manufacturers' agent in the states of Illinois, Indiana, Wisconsin, Michigan and Ohio.

Wendell Hall

The firm will deal in grains, grain products and feed ingredients. Mr. Hall will represent Smith-Douglass Co. in the sale of Coronet Defluorinated Phosphate in the states of Indiana and Michigan.

Mr. Hall has experience in the sale of formula feeds and specialties to the feed industry with territorial and executive knowledge.

Poultry Event Set

BOZEMAN, MONT. — The Montana Poultry Institute has been announced for Sept. 16-17 on the campus of Montana State College here. The institute is sponsored by the Montana State College poultry industry department.

The Montana Poultry & Egg Council will hold its annual meeting starting at 9 a.m. Sept. 16 with the institute scheduled to begin at 3 p.m. in Agricultural Auditorium.

Speaker for the institute banquet to be held at Beaumont Club, Belgrade, Mont., will be Dr. Elton L. Johnson of the University of Minnesota. Other speakers for the institute include: Dr. John L. Fischer, agricultural economics department, Montana State College, and Dr. R. R. Renne, president, Montana State College.

Grain, Building Burn

DENVER, COLO.—A jammed conveyor belt is thought to have started the $350,000 fire which destroyed the Colorado Milling & Elevator Co. building here in Denver recently. About 150,000 bu. of wheat and an undetermined amount of beans were destroyed in the fire.

George Hopfenbeck, chairman of the board and treasurer of the firm, said the wheat was worth $250,000 and the building, fully insured, was valued at $100,000.

$400,000 DAMAGE

SACRAMENTO — Damage estimated at $400,000 was caused by fire which swept through a 21,000 sq. ft. warehouse of the Colusa-Glenn Drier & Storage Co. near Maxwell, Cal. Worth Bayles, general manager, estimated that about $250,000 worth of milo, some government owned, and some $50,000 worth of fertilizer were destroyed. The fire was believed to have started near an auger motor in the warehouse.

turkey contracts nf-180 protective feeding?

...when growers report:

"...best single drug for turkeys!"
"nf-180 pays and pays good!"

How do turkey raisers feel about nf-180 once they've used it? Are they willing to pay extra for nf-180 medicated feeds?

To find out, Hess & Clark interviewers, armed with tape recorders and cameras, talked to the people who know — turkey raisers themselves. Here are four successful turkeymen telling how they feel about...

The cost of nf-180:

"Some people ask, 'Why do you use nf-180? That's too high priced.' Well, I say, 'nf-180 has paid off in dollars and cents.' My wife and I, we're the ones who have to foot the bills. And I'm convinced that nf-180 *does pay and pay good!*" — Paul Bandel, Rochester, Minn.

nf-180 compared to other drugs:

"I would say that, without any question, nf-180 is the best single drug for turkeys. If I had to pick the one drug that did the most for our operation, I'd pick nf-180." — Keith Langmo, Paynesville, Minn.

nf-180 for specific troubles:

"We shoot the 2-lb.-per-ton level of nf-180 to turkeys that are in stress period... sometimes even a 3-lb. level to straighten them out. And we use 4 lbs. of nf-180 per ton in treating blackhead." — Harold Kaufman, Wayland, Iowa.

"nf-180 is excellent against Salmonellas. It is definitely the treatment for enteritis. And nf-180 saves a few ulcers for me, too." — Keith Langmo

"In general, nf-180 helps control most diseases. If our birds have something and we don't know what it is, we try nf-180 first"— R. T. Maddox, Harrisonburg, Va.

Raising turkeys without nf-180:

"I'd hate to raise turkeys without it! I feel more relaxed . . . less helpless with nf-180 in my feed. There are a good many medications for the turkey industry, but I feel nf-180 is at the top."— Paul Bandel.

• • •

HOW TO SET UP AN nf-180 PROTECTIVE FEEDING PROGRAM

GROWING-FINISHING PERIOD . . . check your past history and local disease problems. Choose the protective feeding program you need:

• 2-lb. (100 grams furazolidone) level continuously should be used to protect against blackhead, hexamitiasis and other diseases.

• 1-lb. (50 grams furazolidone) level continuously gives wide protection against stress and many diseases where blackhead and hexamitiasis are not likely problems.

• Week-a-month plan for areas where disease is not a serious problem. Many growers report good results using a 2-lb. nf-180 stress feed (100 grams furazolidone) one week a month to clean up birds, fight stresses and knock out disease organisms before they can build up and trigger trouble.

TO TREAT SPECIFIC DISEASES . . . use a feed with a 2-4 lb. (100-200 grams furazolidone) level of nf-180. Refer to chart at left for proper level.

Why take chances with drugs that fight only one or two diseases? Use nf-180, the one drug . . . the only one . . . that offers wide-range effectiveness.

Protect birds — from poults to processor — with nf-180.

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Division of Vick Chemical Company
Ashland, Ohio

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CHASE BAGS
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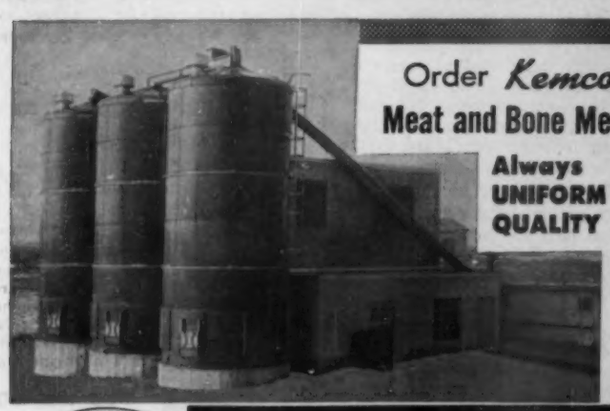

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Rugged mill for heavy-duty grinding, three sizes, 50 to 200 HP, available with split top, closed throat. V-belt, or direct motor drive.

MODEL SW

For all-purpose grinding where high capacity and medium power is required. Three sizes, 40 to 100 HP, V-belt or direct motor drive.

MODEL 400

Three screen change hammermill, manually, or remote manually, controlled. Changes screens without stopping mill. All-purpose mill for a wide range of grinding. Direct-connected, 40 to 100 HP.

All mills are available with separate Jay Bee motor driven fan.

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- Suspension grinding for cooler, faster, more uniform grind — an exclusive Jay Bee feature!
- Built-up, bolted construction.
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- Finest Ball bearings for years of wear.
- Rugged, heavy all-steel construction of all parts — greater strength without excess weight.
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- Texture Grind — finer, more uniform texture, no loss of valuable amino acids.

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A COMPLETE LINE OF FEED MILL MACHINERY

CONFERENCE SPEAKERS—These men took part in the program of the Country Elevator Cost Conference held in Fort Worth, Texas, Aug. 16. Those standing (left to right) are: Jack Brown, McKee Equipment & Engineering Co., Lubbock; Jim S. Cook, H. T. McGill Co., Houston; Fred Rabe, Dallas: Walter Blanton, Blanton Grain Co., Carrollton; Loyan Walker, West Texas Chamber of Commerce, Abilene and Lee Warner, Commodity Stabilization Service, Dallas. Sitting (left to right) are: W. A. King, Fort Worth Chamber of Commerce; W. L. Newsom, Garvey Elevators, Fort Worth; Truitt Kennedy, Cargill, Inc., president of the Texas Grain & Feed Assn., Fort Worth, and John Odom, Millers Mutual Insurance Co., Fort Worth.

200 at Texas Events On Elevator Costs

FT. WORTH, TEXAS — Elevator storage men will have to get back into "merchandising" if they want to survive the cost-price squeeze, Walter Blanton, Carrollton, Texas, told country elevator operators attending a cost conference here.

About 200 elevator operators attended conferences held here and at Lubbock under sponsorship of the Texas Grain & Feed Assn. in cooperation with local chambers of commerce.

Because of the interest in the first two meetings, at least two more are being planned.

Another speaker, W. L. Newsom, Fort Worth, told the elevator operators that cost records are essential. "Most operators wait until the end of the year before taking stock of their costs in operations," Mr. Newsom remarked. "An elevator man who doesn't have a day-by-day detailed cost record may come out the loser at the end of the year," he continued. "You must keep a daily record to provide study for possible price-cost cutting."

The Commodity Credit Corp. storage price rate cut has apparently hurt the southern warehouseman. He is bothered with insect and moisture factors that the northern elevator operator does not have to cope with, the group was told.

Speakers on the two programs (not all the speakers were on both programs) included: Fred Rabe, Dallas engineer, on aeration and drying of grain; John Odom, Millers Mutual, on insurance costs; Jim S. Cook, H. T. McGill Co., Houston, on insect control costs; Walter Blanton, Blanton Elevators, Carrollton, on ways and means of figuring elevator costs; Jack Brown, McKee Engineering & Equipment Co., Lubbock, on conveying lines; Curtis Roach, Hereford Grain Corp., Hereford, on labor costs; R. B. Dawson, First National Bank of Tulia, on costs of financing storage and merchandising; and Frank Wiggins of Kimbell Milling Co., Hale Center, on property maintenance.

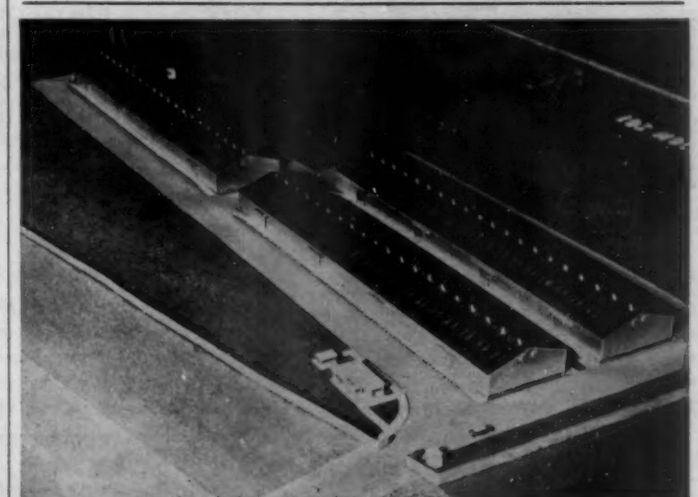
Truitt Kennedy, president of the Texas Grain & Feed Assn., presided at both meetings.

Poultry Head Named

ATHENS, GA. — Appointment of Dewey McNeice as acting head of the poultry extension department at the University of Georgia has been reported. Announcement of the successor to Arthur Gannon, who is retiring after 27 years with the department, was made at the Georgia Poultry Institute at Rock Eagle by W. A. Sutton, Georgia director of extension.

Oct. 1 Mr. Gannon will become coordinator of a Foreign Agricultural Exchange program in Cambodia and Viet Nam, Asia. (Feedstuffs, Sept. 3)

Mr. McNeice is working on his doctorate at Louisiana State University.



MEXICAN GRAIN—A total of 327 grain storage stations like the model shown here are now being constructed throughout Mexico, it has been announced. These structures are scheduled for completion this winter in a program inaugurated by President Lopez Mateos to solve the problems of underproduction and overproduction. In the past, when Mexico had a poor crop year, imports of grain were necessary and threatened the economic dollar balance. In years of surplus, there were inadequate storage and handling facilities and much of the grain was lost. One of the U.S. firms working closely with the project has been Seedburo Equipment Co., Chicago. The firm has served in an advisory capacity and has now delivered 400 sets of the various equipment needed for each grain storage station, including Steinlite moisture testers.

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When other coccidiostats fail you, push the NiCarb button...*not* the panic button! *No other coccidiostat* can match the effectiveness of NiCarb.

And *no other coccidiostat* can equal the wide range of activity of NiCarb in all kinds of weather, all-year-'round.

Join the feed manufacturers and growers who are "switching to NiCarb"...the industry's No. 1 coxy-fighter—*bar none!*

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Convention Calendar

Sept. 12-13—Minnesota Animal Nutrition and Health Short Course; University of Minnesota, St. Paul.

Sept. 13—Iowa Feed Conference; Iowa State University, Ames; chm.; Dr. Virgil Hays, Animal Husbandry Dept.

Sept. 13-15—Dixie Poultry Exposition; Asheville, N.C.; sec., N. B. Nicholson, Monroe, N.C.

Sept. 13-15—Hatchery Short Course; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., P. O. Box 568, Columbia.

Sept. 14—Florida Swine Field Day; University of Florida, Gainesville; H. D. Wallace, Department of Animal Husbandry and Nutrition.

Sept. 14-15—Maryland Feed Servicemen's Conference; University of Maryland, College Park; chm., Wade H. Rice, Extension Service.

Sept. 14-16—National Feed Ingredients Assn.; Liggetts Holiday Inn, Burlington, Wis.; sec., Paul W. Bonewitz, 517½ E. Locust Street, Des Moines 9, Iowa.

Sept. 15—All Poultry Industry Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Sept. 16—Missouri Egg Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Sept. 20-21—Iowa Poultry Convention; Veterans Memorial Auditorium, Des Moines; mgr., LeRoy L. Kruskop, 535 East Lincoln Way, Ames.

Sept. 21-23 — Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn., W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 21-23—Pennsylvania Millers & Feed Dealers Assn.; Hotel Penn Harris, Harrisburg, Pa.; sec., Donald W. Parke, P. O. Box 329, Ephrata, Pa.

Sept. 21-23 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 22 — Minnesota Beef-Grassland Field Day; Rosemount Experiment Station, Rosemount, Minn.

Sept. 22-23 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry and Veterinary Science.

Sept. 28-29 — Ohio Poultry Assn.; Yough Bldg., Ohio State Fairgrounds, Columbus, Ohio; sec., Bruce R. Davisson, Poultry Dept., Ohio State University, Columbus.

Sept. 29 — Vermont Feed Dealers and Manufacturers Assn.; University of Vermont, Burlington; sec., D. C. Henderson, Hills Agricultural Science Bldg.

Sept. 29-30 — Iowa Seed Dealers Assn.; Savery Hotel, Des Moines; sec., Bob Skinner, 401 Shops Bldg., Des Moines 9.

Sept. 30—Nebraska Feed and Nutrition Conference; University of Nebraska College of Agriculture, Lincoln; chm., Dr. John L. Adams, Poultry Husbandry Dept.

Oct. 2-4 — Poultry Industries of Louisiana, Inc.; Bellemont Motor Hotel, Baton Rouge; sec., Clyde Ingram, Knapp Hall, Louisiana State University, Baton Rouge.

Oct. 4-5—Washington Junior Poultry Exposition; Western Washington fairgrounds, Puyallup, Washington; W. R. Jenkins, Extension Poultry Specialist, Agricultural Extension Service, Washington State University, Pullman.

Oct. 4-6 — Northeastern Poultry Producers Council; Exposition and Convention; Onondaga County War Memorial Bldg., Syracuse, N.Y.; Doris Endebrock, Exposition Mgr., 10 Rutgers Place, Trenton 8, N.J.

Oct. 4-6 — Northeastern Poultry Producers Council Exposition and Convention; War Memorial Auditorium, Syracuse, N.Y.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

Oct. 5-7—Texas Nutrition Conference, Texas A&M College, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-12—Virginia State Poultry Federation; Hotel Roanoke, Roanoke, Va.; sec., Paul Williams, 615 East Franklin Street, Richmond 19.

Oct. 11-12—Virginia State Poultry Federation convention and trade show; Hotel Roanoke, Roanoke, Virginia; sec., J. Paul Williams, 615 East Franklin Street, Richmond 19.

Oct. 12-13 — Association of American Feed Control Officials Annual Meeting; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Feed and Fertilizer Dept., Agricultural Experiment Station Bldg., University of Kentucky, Lexington.

Oct. 13-14 — Turkey Short Course and Jr. Market Turkey Show; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Im-

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

1961

April 20-22—California Hay, Grain & Feed Dealers Assn.; Jack Tar Hotel, San Francisco; sec., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento 14.

Man's Internal Struggle
Over The Dollar
COST VERSUS PROFITS

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Letting The Desire To SAVE Money Overpower The Need To MAKE Money...*Can Place You In A Tough Spot.*

If you pay too much, you hate yourself.

If you pay too little, you may be disappointed.

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The "real deal" you are seeking then is for the top flight modern pelleting system which will economically do *all* the jobs you need done—a uniform feeding of dry pellet mash, a top quality application of steam plus one or more liquid feed ingredients, the production of the finest quality pellets, plus the outstanding drying and cooling job which can be done. If you will carefully compare Wenger Pellet *system* costs with all others, including *all* of the necessary functions of a modern pelleting system, (including liquid application) you too will decide that the "real deal" you are looking for is available only from Wenger. Totally aside from minimizing your investment in complete systems cost, you will enjoy the bonus features of top quality materials and workmanship through every component of your pelleting system; the ability to minimize contamination which no other system offers; a great reduction in installation and electrical component costs, plus the multiple purpose design which is yours only with Wenger.

Wenger first determines your total requirements, and then supplies equipment which meets your total needs. Why take less than the opportune advantage of consulting your Wenger Sales and Service Engineer when you are considering liquid feed mixing, pelleting and cooling equipment? He'll supply you with careful recommendations, and the finest equipment available, at a figure which will pleasantly surprise you.

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35. **Science and Service**—a 16-page summary of AFMA Golden Year articles covering all phases of feed industry. Quantity discounts. Imprinting distributor's name for nominal additional charge.... **50c**

38. **Balancing Swine Rations**—Dr. D. E. Becker, University of Illinois.. **20c**

52. **Analysis and Feeding Value Tables for Beef Cattle and Sheep**—6-page article, by Dr. S. H. Morrison, Nutrition Consultant, 25c single copy; 3-5 copies, 15c ea.; 10 or more, 10c each.

61. **What Protein Level for Chicken Layer Diets**—Dr. J. H. Quisenberry, Texas A&M College **20c**

63. **Maryland Broiler Trial**—Dr. Gerald F. Combs, University of Maryland **20c**

65. **Suggestions on Nutrient Requirements of the Pig**—Dr. T. H. Cunha, University of Florida **20c**

69. **Pelleted Rations for Beef Cattle**—Dr. Wise Burroughs, Iowa State University **20c**

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77. **A Puzzling Problem for Cattle Feeders**—Dr. A. L. Neumann, University of Illinois **20c**

78. **A Method for Calculating the Methionine Requirement for the Laying Hen**—Dr. Gerald F. Combs, University of Maryland **20c**

79. **Who Will Be the Feed Manufacturer of the Future?**—Oakley M. Ray, American Feed Manufacturers Assn. **20c**

80. **Feed, Fat and Swine**—Dr. Coy C. Brooks, Virginia Polytechnic Institute **20c**

82. **Credit as a Sales Tool**—E. D. Griffin, Allied Mills, Inc. **20c**

83. **High Protein-Urea Supplements With and Without Lysine for Fattening Steer Calves**—Purdue University Scientists **20c**

84. **A New Look at the Broiler Business**—Dr. L. A. Wilhelm, The Quaker Oats Co. **20c**

85. **Poultry Ration Formulation. Two Articles**—Dr. R. D. Crook, University of Maryland **30c**

86. **Protein and Amino Acid Nutrition of Turkeys**—Dr. P. E. Waibel, University of Minnesota **20c**

87. **Chemical, Biological Study Made of Milo Feeding Value**—W. G. Smith and Dr. E. L. Stephenson, University of Arkansas **20c**

88. **Feed Buying Study**—a series of 3 articles—Drs. Kohls and Krueckeberg, Purdue University **50c**

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CALENDAR FOR 1960-61

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provement Assn., Poultry Bldg., Box 568, Columbia.

Oct. 16-18—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Kentucky Hotel, Louisville; John W. Tuttle, field manager.

Oct. 16-20 — Business Management Program; sponsored by the Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

Oct. 17-18—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Bert Maxwell, Nulaid Farmers Assn., Petaluma; association office, 1400 Tenth St., Sacramento 14.

Oct. 19-21—International Symposium on Animal Nutrition; Madrid, Spain; Geo. M. Strayer, Exec. Vice Pres., American Soybean Assn., Hudson, Iowa.

Oct. 20-21 — West Virginia Feed Dealers Assn.; Blackwater State Park, Thomas, W. Va.; J. Z. Ellison, 801 Willowdale Rd., Morgantown.

Oct. 20-21—Cooperative G.L.F. Exchange, Inc.; stockholders annual meeting; Onondaga War Memorial Bldg., Syracuse, N.Y.

Oct. 20-21—Poultrymen's Institute; Washington State University, Pullman; W. R. Jenkins, Extension Poultry Specialist, Agricultural Extension Service.

Oct. 23-25—Southeastern Feed Production School; University of Georgia, Athens; Harold E. Ford, Southeastern Poultry & Egg Assn., 235 East Ponce de Leon Ave., Decatur, Ga.

Oct. 25-26—Nebraska Poultry Improvement Assn.; National Guard Armory, Lincoln, Neb.; sec., Doyle H. Free, Poultry Husbandry Bldg., University of Nebraska, Lincoln.

Oct. 25-26 — Indiana State Poultry Assn.; Purdue Memorial Center, Purdue University, Lafayette; sec., Robert L. Hogue, Poultry Science Bldg., Purdue.

Oct. 27-28—National Swine Industry Conference; University of Kentucky, Lexington.

Oct. 27-28 — Washington Poultry and Hatchery Assn.; Chinook Hotel, Yakima.

Oct. 27-29—National Swine Industry Conference; University of Kentucky, Lexington, Ky.; chm., Keith Myers, Secretary, National Swine Growers Council, Box 241, Grundy Center, Iowa.

Oct. 28—Illinois Sheep Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Animal Science Dept.

Nov. 2-3—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 2-3—Illinois Feed Assn.-Illinois Poultry & Hatchery Federation, mory, Springfield; sec., IFA, Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., IPHF, Aubrey Harless, Shelbyville, Ill.

Nov. 3—South Dakota Swine Research Day; South Dakota State College, Brookings.

Nov. 3-4 — Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. H. H. Williams, Biochemistry and Nutrition Dept., Savage Hall, Cornell University, Ithaca, N.Y.

Nov. 9-12 — National Renderers Assn.; Statler-Hilton Hotel, Dallas, Texas; sec., Miss Jamie Fox, 30 N. LaSalle St., Chicago, Ill.

Nov. 14-15 — Washington Animal Industry Conference; Skagit Valley College, Mount Vernon, Wash.; John G. Wilson, mgr., Washington State Feed Assn., 814 Second Ave. Bldg., Seattle 4.

Nov. 16-17—Missouri Poultry Improvement Assn.; Hotel Continental, Kansas City; sec., E. M. Funk, Columbia, Missouri.

Nov. 16-18—Florida Nutrition Conference; University of Florida, Gainesville; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept.

Nov. 17-18 — Liquid Feed Assn.; Kansas City; Jack von Mettenheim, Princeton, Ill.

Nov. 20-22—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 401 Shops Bldg., Des Moines 9.

Nov. 25-26 — American Society of Animal Production; Hotel Sherman, Chicago, Ill.; sec., Clair E. Terrill, Animal Husbandry Research Division, Agricultural Research Center, Beltsville, Md.

Dec. 1-2—North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. J. W. Kelly, Poultry Science Dept.; co-sponsored by North Carolina Feed Manufacturers Assn., sec., McNair Evans, Box 44, Mocksville.

Dec. 6-7 — North Dakota Turkey and Egg Convention; Fargo Civic Center Auditorium, Fargo, N.D.; sec., Irving J. Mork, Fargo.

Dec. 8 — Arizona Grain and Seed Assn.; Westward Ho Hotel, Phoenix; sec., Willis F. Nielson, Box 787, Mesa, Ariz.

Dec. 12-13 — Midwest Veterinary Nutrition Conference; Continental Hotel, Kansas City; Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th St. Bldg., Kansas City 5, Mo.

Dec. 13-15 — Minnesota Poultry Hatchery Assn.; Hotel Radisson, Minneapolis, Minn.; sec., L. L. Baumgartner, Litchfield, Minn

1961

Jan. 4-6—National Turkey Federation; Conrad Hilton Hotel, Chicago, Ill.; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 12-13—Michigan Feed & Grain Dealers Assn.; Michigan State University, Kellogg Center; sec., Nevel Pearson, P.O. Box 472, East Lansing.

Jan. 15-17—Indiana Grain and Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 16-17—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Jan. 23-25—Farmers Grain Dealers Assn.; Civic Memorial Auditorium, Fargo, N.D.; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 27 — Missouri Turkey Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Jan. 31-Feb. 1 — Hoosier Turkey

Trot; Purdue Memorial Union, Purdue University, Lafayette, Ind.; John N. Howell, Turkey Department, Indiana State Poultry Assn., Poultry Bldg., Purdue University.

Feb. 2-3—Oregon Animal Nutrition Conference; Withycomb Hall, Oregon State College, Corvallis.

Feb. 3-4—Minnesota Turkey Growers Assn., Leamington Hotel, Minneapolis; sec., Roy Munson, 2200 University Ave., St. Paul, Minn.

Feb. 6-7—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry and Range Management Dept.

Feb. 7-10—American Dehydrators Assn.; Jung Hotel, New Orleans, La.; executive vice president, Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 8-9—Pacific Northwest Feed Mill Production School; Hotel Leopold, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10—Washington State Feed Assn., annual convention; Hotel Leopold, Bellingham, Wash.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; pres., Harold M. Williams, 59 E. Madison, Chicago 2.

Feb. 19-21—Midwest Feed Manufacturers Assn.; Hotel Muehlebach, Kansas City, Mo.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 19-21—Ohio Grain & Feed Dealers Assn.; Neil House, Columbus; sec., George G. Greenleaf, 5625 N. High St., P.O. Box 121, Worthington.

March 8—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati, Ohio; L. E. Carpenter, Executive Director, Distillers Feed Research Council, 1232 Enquirer Bldg., Cincinnati 2.

March 16-17—Oregon Feed & Seed Dealers Assn.; Sheraton-Portland Hotel, Portland; mgr., Russ Hays, 702 Lewis Bldg., Portland 4.

March 16-17—Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. R. D. Creek, Poultry Husbandry Dept., University of Maryland, College Park.

March 20-24—Grain & Feed Dealers National Assn.; Washington, D.C.; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

April 10-12—Poultry and Egg National Board; Sheraton Towers Hotel, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

April 27-29—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson.

April 28-28—Grain Elevator & Processing Supterintendents; Baker Hotel, Hutchinson, Kansas; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

May 7-10—American Feed Manufacturers Assn. Convention and National Feed Show; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4.

June 8-11—Canadian Feed Manufacturers Assn.; National Convention; Manoir Richelieu, Murray Bay, Quebec; national secretary, W. N. Hendrick, 2901 Bloor St. W., Toronto 18, Ont.; for registrations, T. G. Sevigny, Room 100, 355 McGill St., Montreal 1, Quebec.

Aug. 24-26—North Carolina Feed Manufacturers Assn.; Virginia Beach, N.C.; sec., McNair Evans, Box 44, Mocksville.

Oct. 22-24—Midwest Nutrition Conference; Hotel Muehlebach, Kansas City, Mo.; sponsored by Midwest Feed Manufacturers Assn.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

1962

Aug. 13-18—12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

Takes Illinois Post

URBANA, ILL.—Dr. John B. Claar, administrative field representative for the Federal Extension Service in Washington D.C., has become associate director of the University of Illinois Agricultural Extension Service. Dr. Claar took over the duties of Dr. William G. Kammlade, associate director since 1949, who retired Aug. 31.

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North Central Feed Control Officials Urged to Study, Solve Own Problems

SIOUX FALLS, S.D. — "It's high time the feed control officials in the North-Central states exert themselves and develop policies pertaining to their own problems," said I. Levin, chemist and consultant from Des Moines, Iowa. Mr. Levin, assistant secretary of the National Feed Ingredients Assn. and former Iowa control official, was addressing a recent meeting of the North Central States Association of Food, Feed, Fertilizer and Pesticide Control Officials.

He continued by saying, "Every phase and facet of the feed mixing and manufacturing business abounds in the five north central states. Officials in this area must let it be known that they have problems which need to be recognized by the Association of American Feed Control Officials. Also they must point out it's imperative that the AAFCO pay close attention to the policies established by this group."

Mr. Levin touched upon several other areas in his talk, too. Three major points included the need for feed control officials to adhere to the laws, label guarantees for vitamins, antibiotics, trace elements and drugs and changes in the terminology.

"To my consternation, I find that some feed control officials may be 'ruling by man' rather than 'ruling by law,'" said Mr. Levin. "I plead with you not to let this take place. The due and orderly process of law should be followed. And if a law is antiquated, it's the duty of the control agency to promote the proper changes.

"During the last several weeks I've had an opportunity to discuss with many people in the feed industry the posture of feed control officials. I was amazed by the ever present opinion that even though a feed control official may be in error in pursuing certain courses, it is futile to discuss problems with him when he had apparently closed his mind to the facts or to the dictates of his law.

"When this happens, the petitioner has no recourse short of court to obtain the rights guaranteed him by the Constitution. Resort to the courts is a long and costly procedure and, too, there exists the further possibility of alienating the control official—and the petitioner must continue to do business with this official.

"Thus, the petitioner usually feels he is better off if he does not press his case. In effect, he says to the control official that he is in the wrong (even though he is certain he is right) and can turn to no one to arbitrate the case. Therefore, I plead the case of all petitioners with you.

Guarantees

"I should like to discuss the matter of guarantees for vitamins, antibiotics, trace elements and drugs. This, of course, involves the label which is attached to feed products and which is for the enlightenment of the consumer. Much confusion arises from the various methods of expressing guarantees for microingredients."

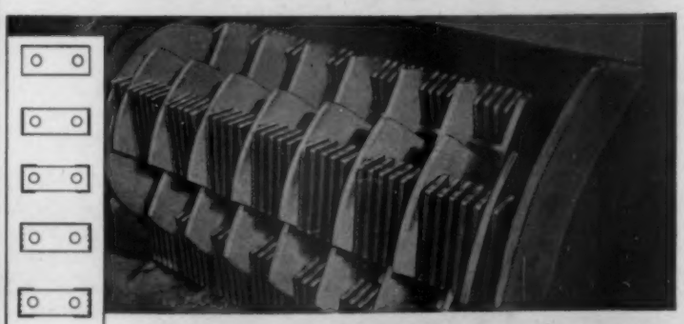
For instance, explained Mr. Levin, many researchers express vitamin B_{12} in micrograms per pound in order to avoid stating the quantity in thousandths of a gram per pound as is required by the vitamin section of the Official Publication of the Association of American Feed Control Officials.

Researchers publish their findings on the basis of milligrams per pound; the antibiotic regulations of the Food and Drug Administration refer to certifiable antibiotics on the basis of grams per ton; the new food additive regulations refer to the antibiotics on the basis of percent and parts per million; while state feed control officials insist on guarantees based on grams per pound.

Trace minerals are reported out by researchers on the basis of parts per million and milligrams per pound while most state feed control laws and the Model Feed Bill require that these items be guaranteed on the basis of percent.

"I know that state feed control officials adopt their position toward additional guarantees because they are attempting to avoid misrepresentation. However, they must agree that experiment stations expect their published reports to be read by livestock and poultry feeders. If the researcher reports on a certain basis, will not the feeder be more fully informed—rather-than-confused — if the label guarantees the item as does the researcher's published results?" asked Mr. Levin.

"Since it is a slow process to get all concerned to refer to these items on the same basis, may I suggest that a little leniency is called for from control officials? If the item is guaranteed according to the official publication or the laws of the several states, feed control officials should permit other parenthetical guarantees which reflect the researcher view



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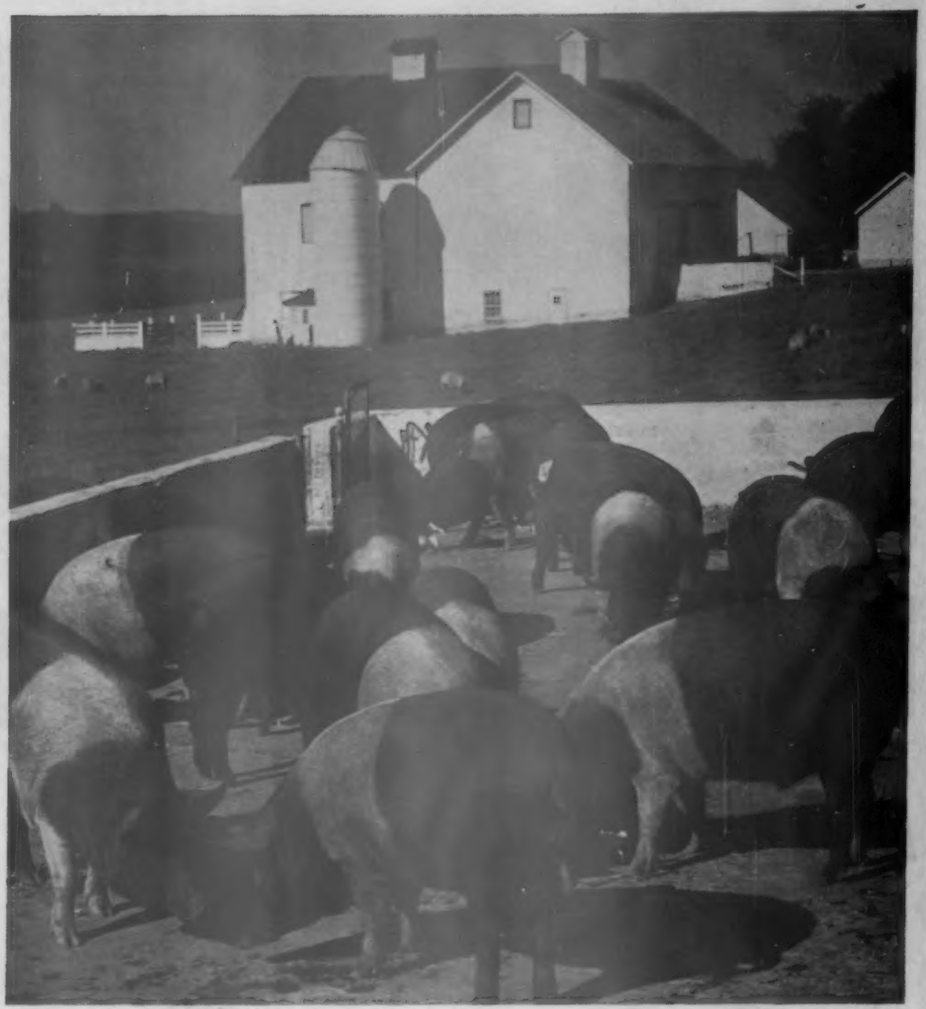

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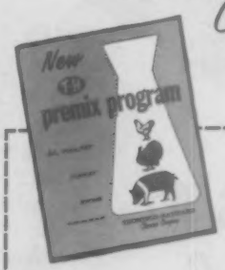

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'TENT CITY'—More than 2,000 sales representatives of the Moorman Manufacturing Co., Quincy, Ill., were fed and housed in this "tent city" while attending a series of six meetings recently at the Moorman Research Farm, 11 miles northeast of Quincy. The meeting tent is in the left center (dark top) near Jug Lake with the kitchen and charcoal pits next. The six dormitory tents are in the right background. Men came from as far away as Florida, Georgia, Texas, New Mexico, Wyoming, Montana, Michigan and Ohio.

and the expressions of the antibiotic and food additive regulations.

"When this is done, the feeder who attempts to faithfully follow the research work will have little difficulty in determining from the label whether or not he is feeding the quantity which has been shown to be beneficial. Certainly the feeder is entitled to be considered, at least somewhat, when labeling problems are being considered."

This procedure will tend to make the label longer, but it should be permitted until the various groups involved can decide on one method and stick to it.

Definitions

"Some of the developments which have occurred at the last three meetings of the American Feed Control Officials have disturbed me greatly. There seems to be prevalent among some of the members of the group a sense of compulsion or a dynamic urge to change nomenclature. A prime example is the definitions for wheat by-products. I need not remind you that feed control officials in one fell swoop (against the usual policy of the association) changed practically all existing wheat by-product definitions.

"This was done on the advice of the wheat products investigator who assured the members that this is what the wheat milling industry wanted. Yet, when most of us went back to our own bailiwicks, we found that millers in our states were greatly concerned with what we had done since they had not been consulted with regard to the changes which were made. Therefore, I urge that you consider the best approach to the problem of avoiding hasty decisions," said Mr. Levin.

"Another problem that comes to mind is the desire to drop some words from officially recognized names. For instance the words 'feed' and 'feeding' are being dropped at the request of the membership. The word 'oil' is in the process of being removed from definitions for 'oil seed by-products' and these definitions have been in effect almost as long as the organization has existed.

"I wonder if many have stopped to consider the problems involved when ingredient names are changed in the Official Publication. This does not work a hardship on the large manufacturer who has a three to four-time turn-over in labels during a registration period or during a year. However, it means a lot to the small feed manufacturer or feed mixer. When these firms purchase 1,000 labels, the supply may last from three to five years.

"It is highly frustrating to the small feed manufacturer to be continually confronted with the problem of changing labels. Sometimes it causes them to discard a considerable number of labels due to circumstances beyond their control.

"No one would object if these changes were of prime importance and had to be made because of compelling reasons such as the introduction of new products or because of new manufacturing techniques which refine old products to a greater degree. However, in my opinion, these are the exception rather than the rule," Mr. Levin commented.

"In connection with this same problem, I should like to re-emphasize my thinking along the lines of strengthening the North Central states group. The states represented in this group have more specialized problems than do most of the other states.

"More and more have I noticed the tendency of a selected number of states apparently greatly influencing the policy for all feed control officials. I know that the men who represent them are very able and very knowledgeable. However, I believe that all the states must be vocal in these matters, and the North Central states must assert themselves in these matters."

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Merchandising, Legislation Among Topics at Texas Poultry Exposition

FT. WORTH—Merchandising, legislation, production and promotion came in for their share of discussion at the Texas Poultry Industry Exposition held at the Texas Hotel here. The meeting also marked the first time the annual meetings of the Texas Poultry Improvement Assn., Texas Turkey Federation, Texas Broiler Council and Texas Egg Council have been combined.

Announced at the meeting was the arrangement whereby Texas poultry industry groups contribute to a fund used to seek an amendment to the state constitution to allow these and other agricultural groups to vote a tax on themselves to use for promotional activities.

During the session a proposal was made by George McCarthy of Allied Mills, Inc., Ft. Worth, temporary chairman, for a state federation to represent all phases of the poultry industry. Representatives from each branch of the industry endorsed the need for a unified representation, though there were objections from the broiler and turkey industries on dissolving the present organizations. It was moved that the different branches of the industry make their suggestions in writing, to the Texas Poultry Improvement Assn., Stephenville.

A committee was appointed to draw up a constitution and by-laws, with copies going to each member of the existing poultry organizations. This committee included W. B. Griffin of Santa Anna, representing the turkey industry; Frank Sisco, Nacogdoches, broilers; A. L. Myrick of Ft. Worth, processors; Wesley Ballman of Ft. Worth, feed men, and Dr. John H. Quisenberry, College Station, the Texas Poultry Improvement Board.

Poultry men were reported to believe this central leadership will help to provide necessary funds and direction to promote increased consumption of poultry products. Income from poultry in Texas last year was about $125,000,000 though it has been as much as $150,000,000.

Effect of Inspection

The panel on "What Effect Is Federal Inspection Having on the Texas Broiler Industry?" with F. Z. Beanblossom as moderator, brought considerable discussion.

The panel charged various discrepancies in the inspection but it was agreed that since the law does exist and the poultry industry must abide by it, it would be best for all concerned to unite their efforts, and that they should forget their differences and work together to produce better poultry and poultry products for the market.

Hermon I. Miller, U.S. Department of Agriculture poultry division, said that inspection is to provide more wholesome food and that the inspection division has four main objectives: (1) Health, (2) sanitation, (3) adulteration, and (4) labeling. Cooked and ready to cook poultry is inspected to insure sanitary operating conditions and prevent adulterations.

Frank Sisco, broiler grower from Nacogdoches, said that while there is inconsistency in the work of the federal inspectors and the condemnations have been more numerous in Texas than in some other locations, he feels that the Texas broilers are as good as those produced anywhere and that federal inspection has helped the industry by giving the housewife confidence in the poultry offered when she shopped and has helped to make producers more quality conscious.

Need Better Inspectors

Charles D. Calhoun, Tyler, agreed with Mr. Sisco about the need for better inspectors, feeling that some of them are not cut out to fill that capacity. He commented that quality starts with the hatcheryman and the breeder and more research and help on management practices are needed, to produce a high quality, healthy bird.

Dr. Kenneth Enroe of Dallas, inspection supervisor for a seven-state area, defended the inspections, pointing out that inspections of Texas birds made during the first six months of the year showed 2.8% condemned, compared with 3.7% average for the seven-state area.

One panel member, A. L. Myrick of Ft. Worth felt that all poultry should be inspected, since non-inspected poultry can be sold for less money and that makes it hard for a federally inspected plant to compete with the non-inspected plants. The public needs to be educated on the values of inspection to increase the consumption of poultry and he called this a real step in progress. With all plants subject to federal inspection, the cost of producing wholesome birds would be equalized, he stated.

Egg Promotion

W. J. Moore, one of the directors of the Texas Poultry Improvement Assn. and second vice president of the Texas Egg Council, discussed "The Big Job Ahead in Egg Promotion," emphasizing the three meal nutritional appeal of eggs in family food planning. Various ideas are now being tested, such as instant scrambled eggs, frozen fried eggs, frozen French toast and year 'round eggnog to stimulate egg consumption. He urged the industry to do more research in marketing procedures, to develop better ways of merchandising and presenting educational material to the public and maintaining a high quality uniform product.

Dr. L. A. Wilhelm, director of poultry development and market research, Quaker Oats Co., Chicago, told the group there is no longer a

TEXAS GIFT — C. H. Thurnbeck, Forest Lake, Minn., National Turkey Federation president, left, is shown as he received a pair of Texas boots from K. E. Janes, Austin, Texas, as a gift from the Texas Turkey Federation. Mr. Thurnbeck was a speaker for the 37th annual meeting of the federation held in Ft. Worth, Texas.

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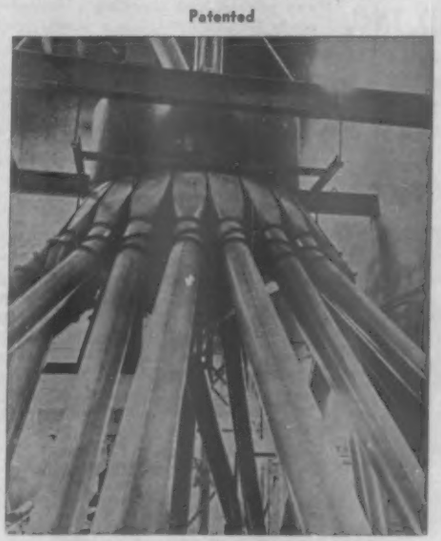

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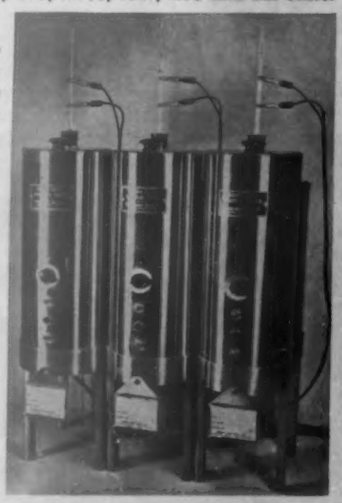

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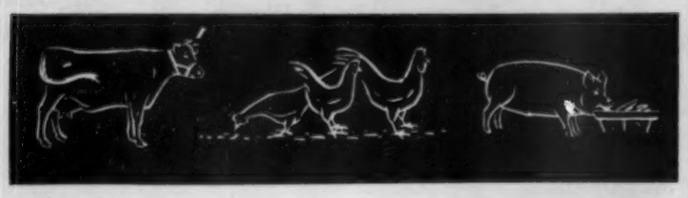

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PLANNED PARENTHOOD—Dr. Philip Dziuk, right, University of Illinois animal physiologist, and W. W. Jackson, herdsman, hold calendars showing the value of "planned parenthood" for hogs. Mr. Jackson's calendar shows 21 days—the minimum amount of time it usually takes 30 gilts to farrow. But with the use of hormones in a new controlled breeding technique, farrowings can be planned over a five-day period, which Dr. Dziuk's calendar portrays. Advantages of this "planned parenthood" include: elimination of random births over a long period of time, grouping of offspring for ease in handling, feeding and selling, and planning of breeding programs so that offspring would be ready for market when seasonal prices are highest. (Feedstuffs, Sept. 3).

place in the industry for the average grower or producer. An above average operation is needed to survive.

He said that the revolution in the poultry business is just getting a good start. Using slides, he presented figures on costs that members of the industry "should strive to meet."

R. M. Hendrickson, marketing manager for poultry feed, General Mills, Minneapolis, said there are four answers to the problems in the poultry industry — new products, modern marketing methods, planned production and consumer education. He stressed that though the development of new products is important, it is by no means the full answer. Orderly, modern marketing for shell eggs also is required. He said that a coordinated egg marketing program is needed so the industry can deal from a position of strength in selling. He noted that it is difficult for one individual or firm to accumulate enough eggs in one place to sell under a brand name, but predicted that this will happen eventually.

Appeal to Housewife

C. H. Thurnbeck, president of the National Turkey Federation, reminded members of his audience that they are selling on a buyers' market and the appeal must be to the housewife who does much of the buying. He stressed the necessity for increased consumption of turkey meat by developing items for the housewife's ready use, such as precooked, table-ready turkey with smaller packages for single meals. He called attention to possible foreign markets, especially Europe, where there is a requirement for high protein foods. Producers were urged to work closely with those handling the finished products and to increase efforts to get more people eating turkey.

Gene Beals, manager of California's Turkey Marketing Promotion Advisory Board, Fresno, reviewed the program used by California which has increased consumption from 5.3 lb. of turkey per capita in 1953 to 12 lb. at present.

Camille Miller, Dallas, was crowned queen of the Texas Turkey Federation at the annual luncheon. Kay Hensley, Kaufman, was runner-up. Both young ladies will be given all-expense paid trips to Chicago in January 1961 to attend the National Turkey Federation convention.

L. C. Harris, Charlie, was awarded the Junior Texas Turkey Federation award for his outstanding record with turkeys.

The election of officers for the Texas Poultry Improvement Assn. for 1960-1961 was held. W. B. Griffin was elected to succeed Charles D. Calhoun as president; W. Ben Wilson, Clyde, first vice president, and Amel Williamson, Austin, second vice president. T. A. Hensarling, Stephenville, was reelected executive secretary.

The Texas Egg Council elected N. J. Robnett, Lubbock, president, to succeed Clarence B. Foster of Arlington; Charles Isenhower, Clifton, first vice president, and Jim Dobbyn, Abilene, second vice president.

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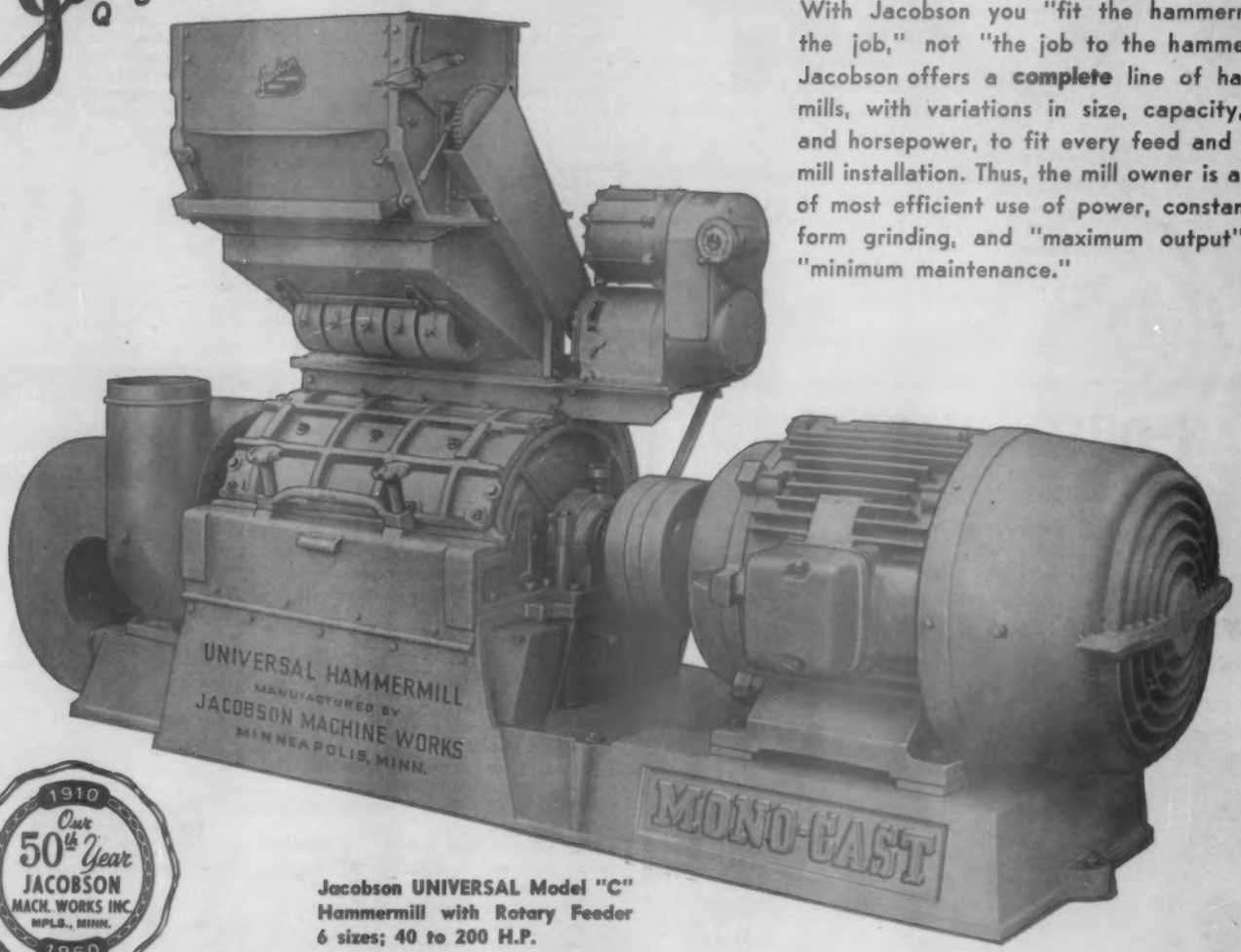

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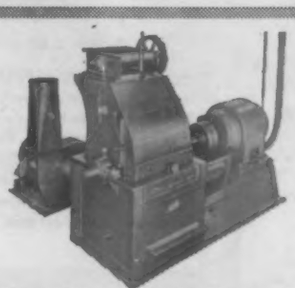

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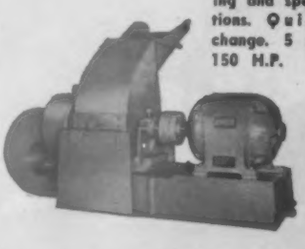

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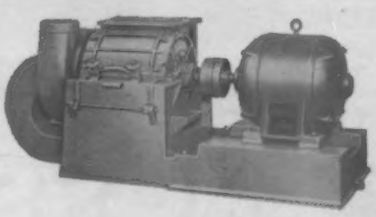

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Wire First Prize Draws Barbed Entries

MINNEAPOLIS — Cargill, Inc.'s commodities department recently held an employee contest in which the top prize was enough barbed wire for a bedroom. About 200 persons entered and nobody won.

Here's how it worked:

Cargill recently obtained exclusive rights to market a new organic binder material for pelleted feeds. They needed a name. Employees of Cargill were solicited for suggestions in a memo. Following is the memo, in part:

"Like to win a bucket of coal or molasses? A ball of twine? Enough barbed wire for your whole bedroom? A bagful (your bag) of rock salt or ammo-phos? Man, who wouldn't?

"You can do it by thinking up the world's swellest name for the commodities department's newest product —a superior binder material for pelleting animal feeds.

"For years, one of the feed industry's crazy problems has been an excessive amount of 'fines' resulting from disintegration of pelleted feeds. This costs feed men money and if you think they like that, you're crazy, too. Fines also tickle pigs' noses and make them sneeze away pound after valuable pound.

"Some dedicated research-type guys at Cargill and an unnamed paper company have got the answer, and we aim to open a good market with the exclusive sales rights we have obtained. We have applied for a use patent and want to get started selling right away.

"The real thinkers in our group decided that a nameless product has certain sales disadvantages. That's why there is this opportunity for you to become immortal by naming it. Here are some clues, or as our friends in England say, clews:

"(1) It is a by-product from the manufacture of paper and is already used as a binder for other exotic purposes.

"(2) Cargill has found in two years' use that it makes a harder, tougher, less breakable pellet, cuts handling waste, saves money, makes a cleaner product, increases consumer acceptance and doesn't tickle pigs' noses.

"(3) Feed control officials have accepted the definition of it as 'lignin extract' for use on feed tags.

"(4) It is organic and is used at a level of 2½% of the finished feed.

"(5) Babies cry for it.

"(6) Please do not suggest 'Carbind' because our thinkers think that sounds too much like a cheap TV western.

"(7) Please do not suggest your own name.

"(8) Return all entries to us."

Some 200 names were submitted and the winners were announced in this memo:

"Barely nosing out numerous 'No Sneeze' entries, 'Dura-Bond' fastened down first place in your commodities department's recent competition to name the new pellet binder.

"Subject to legal approval our thought committee thought 'Dura-Bond' best, 'Car-Bond' second (in case some other geniuses got the good one already) and 'Super-Bond' a poor third.

"One of the reasons for selecting 'Dura-Bond,' besides its upper-middle-class sound, is that nobody submitted it so we don't have to give away a prize. John Savage (and his tribe of little Savages) was closest with 'Durabind.' We thought some about that, 'What the heck,' our leader finally said, 'We're basically big hearted.' So John gets his double-bedroom-sized barbed wire. Then somebody said, 'Besides, John administers salaries.' Actually, that came up earlier in the discussion.

"Grieg Aspnes is No. 2 with 'Car-Bond,' but you hang in there Grieg boy, because the lawyers might shortsightedly wrestle Savage out of his clearly won and richly deserved top honor.

"As we said, 'Super-Bond' is third, but nobody picked that either.

"First honorable mention and a breakfast bowlful of binder for trying goes to erudite Vic Anderson and his 'Constipeo.' That probably sounds silly to you, and it did to us, too, until we read Vic's explanation that 'Con' and 'stipeo' are the classical Latin roots for 'sticking together.' Mercifully, he warned of the possible disadvantage from the fact that they are also the roots for classical constipation. That Vic's a real card.

"Noted as a man to watch closely is Larry McCloskey. He suggested 'Cargill's Glued Food,' and the testimonial: 'Our Cows Mooed for Glued Food.'

"From there on down the list, the entries began to get ridiculous. But thanks for the laughs anyway."

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WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

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ONE NO. 7 DOUBLE SCREENED EUREKA separator; two 10 bu. Wichkan grain scales in original crates. J. E. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FOR SALE—BAUER HAMMERMILL NO. 216; completely overhauled; 75 H.P. motor on mill; 30 H.P. motor on blower. Priced to sell at $2,200. Buckeye Feed & Supply Co., Monterey, Ind.

DAFFIN FEEDMOBILE, IN GOOD OPER-ating condition. Diesel-powered, could be installed as stationary unit; priced for immediate sale; financing available. Address Ad No. 6231, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—ENCLOSED MOTORS; RICH-ardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

1959 DAFFIN MOBILE MILL, POWERED by G.M.C. 4-cyl. diesel, air unloading and the works. Like new condition. 20" Iowa portable mill, mounted on 1957 2-ton Chev. truck, powered by G.M.C. diesel, 2-ton vertical mixer and molasses blending equipment. Moores Mfg. Co., Windom, Minn.

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Southeast Poultry Unit To Form Management Information Service

DECATUR, GA.—Officials of the Southeastern Poultry & Egg Assn. have voted to establish a new management information service for its members and, at the same time, will strengthen its industry service activities.

The decision was reached after a study of the changing needs of the poultry industry in the southeast, according to J. M. Tankersley, SEPEA president.

Personnel will be added to carry out the new program of management information, Mr. Tankersley stated, which will allow the present staff to allocate more time to the vital fields of government, industry and public relations.

A management information program is envisioned, according to Mr. Tankersley, which will include a bimonthly newsletter to members providing timely and specialized business management information, "with special letters as needed."

This new information program will broaden the association services, replacing the monthly magazine, The Southeastern Poultryman, which will discontinue publication after the December issue.

Supplementing this will be the annual directory, business outlook conferences and general information which will be supplied through existing trade publications.

In this same area, Mr. Tankersley stated, the organization's management school will be continued and broadened to cover other subjects as needed.

"As the poultry industry in the Southeast has matured," Mr. Tankersley said, "the value of the Southeastern Poultry & Egg Assn. has become apparent, and the demands for added services have increased sharply."

In the past years, officials of the association noted, the monthly magazine provided a valuable service. When it was started, it was felt no other trade publications were giving adequate coverage to the industry in the area. But as the industry has grown and changed, commercial trade publications have entered the field, providing adequate general information. Earlier in the year, a special committee studied the information needs of the industry and recommended a more specialized type of service to fill the needs under present conditions.

In a joint announcement, J. Paul Williams, executive secretary of the Virginia State Poultry Federation, said the Virginia Poultryman will continue publication as the federation's official organ. The Southeastern Poultryman and the Virginia Poultryman have been published jointly by the Southeastern and Virginia organizations since 1948 and Mr. Williams has served as editor of both magazines since 1950.

Mr. Williams said the directors of the Virginia federation see a continuing need for a monthly magazine to keep its several thousand broiler, egg and turkey producer members as well as company executives and servicemen fully informed on fast-changing production and marketing practices and the activities of the various industry organizations affiliated with the federation. These include the Virginia Broiler Growers Assn., the Virginia Turkey Assn., the Virginia Egg Council and the state feed, hatchery and processor associations.

W. L. Alley | Eric Carlson | Oak B. Smith | Art Stegner

S.E. Production School Program Set

ATHENS, GA.—A "dynamic" program has been scheduled for the first Southeastern Feed Production School. It will provide some of the latest techniques in materials handling and controlling quality, according to the announcement. The school will be held here Oct. 23-25.

Subjects in the fields of human

Dr. H. L. Fuller | Alan Wietlake

relations and intra-company communications will be integrated throughout the program. All subjects on the agenda were selected for their importance to the problems that are common to the feed mill operators in the southeastern states, according to sponsors of the school. The discussions are planned to stress the practical application and yet link theory to specific examples. The school is designed for the "inexperienced as well as the professional operators."

J. M. Tankersley, president, Southeastern Poultry & Egg Assn., in announcing the agenda, reported that the tuition fee for the school is $50 and advanced registration is necessary.

Co-sponsors of the school are the Feed Production School, Inc., Kansas City; the University of Georgia, Athens, and the Southeastern Poultry & Egg Assn. Reservations are available through the Southeastern Poultry & Egg Assn., 235 East Ponce de Leon Avenue, Decatur, Ga.

Subjects and staff members will be: "How to Reduce Cost Through Work Sampling," Richard Muther, Muther & Associates, Kansas City; "Materials Handling—Sack or Bulk," Eric Carlson, Ralston Purina Co., St. Louis; "Pelleting Coastal Bermuda," Jim Butler, Georgia Coastal Plains Experiment Station, Tifton, Ga.; "A Practical Quality Control Program," Alan Wietlake, manager of quality and inventory control, Hales & Hunter Co., Chicago, assisted by Dr. Henry Fuller, University of Georgia; "Grain Storage—Moisture Control," Lloyd L. Smith, agriculture engineering, Agricultural Marketing Service, USDA; and "Bin Flow," Art Stegner, Butler Mfg. Co., Kansas City.

"Creative Thinking," Dr. James Gates, dean, School of Business Administration, University of Georgia; "Intra-Company Communications," Dr. Leighton Ballew, University of Georgia; "Empathetic Evaluation," Dr. J. Clyde Driggers, University of Georgia; "Food Additive Amendments," John W. Sanders, director, Atlanta division, Food and Drug Administration; "Taking a Hard Look at Cost Standards," Joe Sloan, vice president, Cosby-Hodges Milling Co., Birmingham, Ala.; "Liquid Handling," Oak Smith, Wenger Mixer Manufacturing Co., Kansas City; "Trends," Dr. V. John Brensike, USDA, Washington, D.C.; and "The Wrap Up," Larry Alley, vice president, Pay Way Feed Mills, Inc., Kansas City.

All program participants will be available at designated hours for conference with individuals and small groups, it was announced.

McMillen Feed Names District Sales Head

FT. WAYNE, IND. — McMillen Feed Mills, a division of Central Soya Co. here, has announced the promotion of Merle Altstiel to the position of district sales manager for the southwestern sales district.

Merle Altstiel

The district includes all or parts of the following states: Arkansas, Mississippi, Louisiana, Oklahoma, Texas and Missouri. In his new position, Mr. Altstiel will be located in Memphis, Tenn., with headquarters at the McMillen Feed Mills plant.

Mr. Altstiel joined McMillen Feed Mills as an assistant territory manager in March, 1950 following graduation from Michigan State University. He became a territory manager in Michigan in September, 1951 and was a member of the Wildcat Club, the company's top sales group, in 1957 and 1959. In March, 1960 he was given a special sales staff assignment in Ft. Wayne.

As southwestern district sales manager, he will supervise the efforts of territory and assistant territory managers who work with feed dealers and farmers, the company reported.

ARCHITECT'S DRAWING—This is an architect's drawing of the new three-quarter million dollar Fasco Feed Mill now under construction at Mendota, Ill. All handling, formulation and blending operations—from raw ingredients to the finished livestock and poultry feed ready for delivery—are controlled electronically.

Fasco Mills Builds Automated Plant

MENDOTA, ILL. — Scheduled for completion here later this year is a completely automated $750,000 livestock feed plant for Fasco Mills.

Center of work at the new mill will be an electronic control panel which directs the operation of conveyors, gates, scales, mixers and other specialized equipment. Pre-punched cards with the firm's formula information will set the control panel lights flashing.

According to Art Zimmerman, veteran feed man and president of the 27-year old Fasco Mills, the new plant will produce one ton of supplement or complete ration with a fraction of one man-hour per ton. It will take just eight persons to operate the mill capable of producing 180 tons per eight hour shift.

When completed the 75-foot high mill building will be surrounded by 21 roof-mounted steel ingredient tanks with an ingredient capacity of almost 900 tons.

Fulton Buys Steel Building Company

ATLANTA — American Buildings Corp., Columbus, Ga., manufacturer of pre-engineered steel buildings, has been purchased by Fulton Industries, Inc., Atlanta, diversified industrial firm. It will be operated as a division of Continental Gin Co., Birmingham, Ala., which is one of Fulton's subsidiaries. Purchase price was not disclosed.

In a joint announcement, Willard B. Joy, president of American Buildings, and A. L. Vandergriff, president of Continental Gin, said this action will materially benefit the operations of both companies.

Fulton Industries is composed of: Fulton Cotton Mills, Atlanta; Precasco Corp., with two operating divisions, Precision Castings Co., Cleveland, and Fayetteville, N.Y., and Ainsworth Manufacturing Co., Detroit, and Marysville, Mich.; Fulton Bag & Cotton Mills of Savannah, Ga.; Continental Gin Co. and American Buildings Co.

J. B. Sedberry, Inc., Expansion Completed

TYLER, TEXAS—J. B. Sedberry, Inc., has announced completion of an expansion program which began in July, 1958 when the company opened its new plant here.

On property adjacent to the original Tyler plant, the firm has obtained additional warehouse space and constructed a new steel building with overhead cranes for handling heavy equipment. The firm installed new machinery for manufacturing air systems, mixers, bucket elevators, screw conveyors, turnheads, weigh buggies and other materials handling equipment.

The building also houses a new machine shop and additional facilities which are being used in manufacturing Jay Bee Hammermills.

J. B. Sedberry, Inc., was founded more than 35 years ago. The executive offices and manufacturing facilities are in Tyler, Texas; the corporation maintains offices, warehouses, sales, service, repair, sub-assembly and a complete stock of replacement parts in Franklin, Tenn.

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Feedstuffs

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By Frank B. Morrison and Associates

Feeds and Feeding has again been entirely revised, because of the many discoveries made in nutrition and livestock feeding. In this 22nd edition, particular emphasis is placed on the new developments. The numerous experiments are summarized which have dealt with antibiotic, arsenic and surfactant supplements, and with hormones, including stilbestrol. Full information is given concerning requirements of various classes of stock for the vitamins, including B and the unidentified factors. The Appendix Tables are enlarged by 40%, with composition and digestible nutrients of 1,100 feeds..... **$9.50**

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By M. E. Ensminger, Ph.D., State College of Washington, Head Department of Animal Science

A complete yet easily understood reference for swine feeders, breeders and those in auxiliary services to them. Covers history and development of the industry, its distribution, adaptation and future; types and breeds, establishing the herd, meat type breeds, selection and judging, breeding, feeding, grains and high energy feeds, protein, vitamin and milling by-product feeds, pastures, buildings and equipment, health and disease prevention, marketing and slaughter, management and showing. 543 pages, 192 illustrations..... **$5.30**

SWINE FEEDING AND NUTRITION (1957)

By T. J. Cunha, Department of Animal Husbandry and Nutrition, University of Florida

A new text for feeders, teachers of animal husbandry and their classes, county agents, nutritionists and workers in veterinary pharmaceuticals. Dr. Cunha is head of the Department of Animal Husbandry, a member of the Nutrition Committee of the American Society of Animal Production and the Swine Nutrient Requirements Committee of the National Research Council. The book includes reports on the most recent scientific feeding studies on swine. 500 pages, 47 tables, 46 illustrations **$5.00**

SWINE PRODUCTION, 2nd Edition (1956)

By W. E. Carroll and J. L. Krider

A guide to organization, establishment, management, feeding and marketing operations in raising of hogs. 498 pages, 65 illustrations.... **$7.50**

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By George P. Deyoe

A practical swine raiser's handbook. Stock selection, record keeping, feeding, care and handling, marketing techniques and preparing pork for home use. 447 pages, 201 illustrations, 40 tables **$6.95**

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By Rudolph Seiden and W. H. Pfander

An encyclopedic presentation of production, formulation and medication. Designed to increase feed efficiency, explaining thousands of terms. Valuable to ranches and farms in production of feeds from right crops, utilization of plant as pasture, silage, hay, etc., and as an officially recognized feed product (meal, bran, grit, cake, etc.). Explanations and practical advice on medicated feeds, mineral feedstuffs, trace elements, growth stimulants and chemicals of importance to stockmen and poultry growers. Useful to feed manufacturers, nutritionists, students of animal biology, etc. 600 pages, 175 illustrations, cloth binding **$9.00**

THE STOCKMAN'S HANDBOOK (1959)

By M. E. Ensminger, M.S., M.A., Ph.D.

Intended for stockmen, those who counsel with stockmen and for teachers in animal agriculture. Of particular interest to the feed trade is a section on breeding and feeding of livestock. Other chapters have to do with judging, management, marketing, etc. The 1959 edition is an extensive revision of the first edition, published in 1955. The 668-page book has 635 charts, tables and illustrations. A practical handbook **$8.75**

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A small but absolutely authentic and concise treatment of vital information for feeders and feed manufacturers. 43 formulas for diets and mashes, vitamin content of over 60 feedstuffs; what feedstuffs are best; deficiency diseases; also relationship between feed consumption and egg production. 297 pages, hard binding **$4.00**

THE GRAIN TRADE: How It Works (1956)

By James S. Schonberg, Vice President, Uhlmann Grain Co.

A comprehensive book on the mechanics of merchandising and trading in cash and grain futures in the U.S. and Canada. Tells of what happens to grain following its purchase from the farmer, how it is graded, stored and conditioned, the establishing of price even before the crop is planted, the role of the university professor in the grain trade. This authoritative book will become the leading reference book on this subject for farmers, county agents, legislators, foreign buyers, government personnel, teachers, etc..... **$6.00**

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By Gustave F. Heuser, Professor, New York State College of Agriculture, and the School of Nutrition

Meets the needs of poultry producers, feed dealers and poultry students for the latest authoritative information on how to raise the best poultry by employing modern feeding methods. It evaluates findings on the value of feeds, types of feed to be used and nutritive economy. Deals with feeding and management for various purposes, chicks, breeders and egg producers. 632 pages... **$7.95**

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New, 1955; a practical guide to hatchery operation for the experienced and inexperienced. Covers all phases of the business, including advertising, selling, office procedure, labor costs, equipment, chick selection, sexing, etc. 350 pages, well illustrated **$7.50**

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By Roland C. Hartman, Editor Pacific Poultryman, and Dale F. King, Dept. of Poultry Husbandry, Alabama Polytechnic Institute

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By Stanley J. Marsden and J. Holmes Martin

A text on turkey raising and marketing by Stanley J. Marsden, Poultry Husbandman at the U.S. Research Center, Beltsville, Md., and J. Holmes Martin, Head of the Poultry Department, Purdue University. Covers breeding, rearing, feeding, preparation for the market, shows, diseases and their prevention and control. 1,000 pages, 124 illustrations **$7.00**

THE FEED MIXERS HANDBOOK, 2nd Edition (1956)

By Ross M. Sherwood

A text for feed mixers with special reference to the nutritional aspects of feed formulation. A practical handbook for practical men. 266 pages, cloth bound **$3.25**

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Plan to Promote Standard Records For Poultryman

BRUNSWICK, MAINE — Plans to launch a campaign to promote the widespread use of standard production record forms and a uniform system of accounting by poultrymen were explained by Richard I. Ammon, executive secretary of the Northeastern Poultry Producers Council, recently at Maine Poultry Day at Bowdoin College.

As announced previously, a joint committee, formed by NEPPCO and the American Feed Manufacturers Assn., is now at work developing the standard forms and accounting system, Mr. Ammon pointed out.

Other plans of the committee include the development and publication of a "Poultry Businessman's Handbook" which would contain all the data, the norms, the benchmarks, the averages, the "chicken arithmetic" necessary for anyone to accurately forecast the success potential of a poultry operation, said Mr. Ammon.

Also on the committee's drafting boards is the possible establishment of a poultry business management school. "The school's curriculum would be slanted not only to poultrymen, but also to bankers, accountants, feed men, equipment dealers, hatcherymen and others who extend credit to poultrymen," said Mr. Ammon. "It would be designed primarily to teach the business of egg, broiler and turkey production and marketing. The handbook would probably become the school's textbook and the production and accounting records would be used as a work book."

Mr. Ammon backgrounded the formation of the committee, pointing out that last fall NEPPCO invited the AFMA to join with it in tackling the problem of credit and poultry business management. The committee of several directors from each organization was formed.

Good Records Needed

"The committee realized at the outset that good credit practices—good business management practices—depended upon good records," said Mr. Ammon. "At the same time, they were fully aware of the age-old aversion of farmers to record keeping."

Mr. Ammon said that it soon became clear that their first and probably biggest hurdle would be to get poultrymen to keep adequate records. They recognized the need for poultry record keeping to be simplified and standardized and the need for establishment of a set of norms or benchmarks to enable poultrymen and their creditors to accurately compare one operation with another.

"The use of credit is predicated on a thorough knowledge of the financial structure of the business," said Mr. Ammon. "In practical terms, this means the poultryman must have a pretty intimate 'accountant's acquaintance' with his own business, be able to compare his cost and income figures with industry norms or averages and be able to evaluate his 'success potential' in relation to economic trends both within and without his industry."

Mr. Ammon discussed these points as part of NEPPCO's long-range "program of action" called "Project 65."

He listed four points which form the "hard core" of the project as:

"To increase total demand . . .

"(1) Massive merchandising of a premium quality product.

"(2) An export program.

"To stabilize supply . . .

"(3) A study seeking new or improved price reporting methods.

"(4) A program to improve poultry business management."

APPOINTMENTS—Morton Chemical Co., Chicago, has named William L. Warren, right, as sales supervisor for its newly expanded southern division, it has been announced. Dewey B. Hudson, left, Albemarle, N.C., has been appointed southern region equipment specialist. Mr. Warren, who headquartered in Memphis, has represented Morton Chemical (formerly Panogen Co.) in the south since 1955. His new position will involve 11 southern states from Virginia to central Texas. Mr. Hudson, who has been with Morton for four and one half years, will sell and service Panogen seed treaters and accessory equipment throughout the 11-state area.

Food Additives Act Deadline Said Definite

WASHINGTON — A warning has been issued by officials of the Food and Drug Administration that enforcement of the Food Additives Amendment of 1958 "almost certainly" will become effective March 6, 1961.

This statement came out during a symposium on the amendment conducted by the division of food, drug and cosmetic law of the American Bar Assn.

"Food additives that have not been proved safe will become food adulterants" after next March 6, William H. Goodrich, FDA assistant general counsel for food and drugs, told the group.

"Persons convinced that their products are generally recognized as safe—one of the standards that determines the acceptability for use of a food additive—but who have not been able to convince us, would be well advised to start work on food additive petitions," Mr. Goodrich went on. He said that the petitions should not be hard to prepare, and early issuance of needed regulations could be expected.

Disappointment at the "failure of the industry to respond as promptly as had been expected" was expressed by John L. Harvey, deputy FDA commissioner. He said there is little chance of an extension beyond March 6, 1961.

Mr. Harvey pointed out that the amendment provides the transition period so that the agency might devise its rules and procedures and the industry might adjust to these without an undue impact on its operations.

Industry spokesmen at the meeting protested methods used by FDA in formulating its regulations and in interpreting the amendment in such a way as to bring empty packages under the legal definition of "food" and urged the Congress to extend the compliance deadline or at least give FDA authority to extend it in individual cases. Franklin M. Depew, president of the Food Law Institute, urged management to make every effort to make the law self-enforcing on the part of industry on a voluntary basis.

Bills Affecting Feed Industry to Be Topic at Nebraska

LINCOLN, NEB. — Current and pending legislation affecting nutrition research and the feeding industry will be discussed at the 12th annual Nebraska Feed and Nutrition Conference, Sept. 30 here.

Dr. John L. Adams, chairman of the event which is sponsored by the University of Nebraska College of Agriculture, said a forum on legislation will share the spotlight with a discussion of the role of minerals in livestock and poultry feeding.

Spokesmen representing the federal government in its capacity as a regulatory agency, feed manufacturers and distributors and feed research interests will present their views on legislation during the morning session.

The three-man panel will consist of Alfred Barnard, director of the Kansas City district of the Federal Food and Drug Administration; W. E. Glennon, president of the American Feed Manufacturers Assn., Chicago, and Dr. Damon V. Catron, vice president of research and marketing, Walnut Grove Products Co., Inc., Atlantic, Iowa.

The afternoon session will be devoted to talks by college of agriculture researchers and authorities in the animal nutrition field on mineral supplementation in dairy, beef, swine and poultry feeding operations.

Dr. H. R. Bird, chairman of the poultry husbandry department, University of Wisconsin, Madison, will discuss "Minerals in Poultry Nutrition"; Dr. Richard Dam, department of biochemistry and nutrition at Nebraska, will talk on "Chelating Agents with Respect to Nutrition," and four members of the Nebraska staff will discuss "Mineral Supplementation." On the panel will be Dr. Thomas W. Sullivan, Dr. Foster G. Owen, Dr. Johnny Matsushima and Dr. Donald B. Hudman.

CATTLE FIRM FORMED

LONGMONT, COLO. — The Reynolds Cattle Co. has filed articles of incorporation to engage in cattle and livestock feeding and breeding and also buying and selling livestock. Incorporators and directors include Ray, George S. and Dagmar Reynolds.

Turkey Unit Assigns Initial Exhibit Space

MT. MORRIS, ILL. — National Turkey Federation has announced that the initial assignment of exhibit space for the National Turkey Federation Convention and Turkey Industry Exposition to be held Jan. 4-6 in the Conrad Hilton Hotel in Chicago has been completed.

This initial assignment of exhibit space involves previous exhibitors only. More than 130 exhibitors, at previous conventions, have reserved more than 80% of the available booth space. Remaining space will be assigned to new exhibitors and previous exhibitors who have not yet selected their exhibit space.

M. C. Ohlson, NTF exposition manager, states ample as well as excellent space is now available on a "first come-first served" basis.

Advance reports from the membership indicate attendance at the 1961 NTF convention may surpass any previous record.

Franchises Announced

PLEASANT HILL, MO.—M. R. Irwin, president of Colonial Poultry Farms, Inc., Pleasant Hill, Mo., has announced the franchising of three True-Line associate hatcheries in Mexico.

The recent franchises for True-Lines were issued to Forrajes Semillas of Monterrey; Arturo Almada, Navojoa, Son., and Gallardo Bros. of Lagos de Moreno, Jal. Colonial True-Lines hatcheries in Mexico are supervised by Avicola Seira of Chihuahua, Chih.

Incubator capacity is being installed at the newly appointed franchises, to bring the total incubator capacity of Colonial True-Lines associates in Mexico to 260,000 eggs.

FEED MILL OPENED

BLAIRSBURG, IOWA — Farmers Co-op Elevator Co. here held an open house at its new $100,000 feed mill. Those attending were taken on a tour of the new steel feed mill structure with its automatic grinding and mixing equipment. Contractor for the mill was Northwest Steel Corp., Ft. Dodge, Iowa. Main supplier of feed products used by the new mill is Boone Valley Cooperative Processing Assn., Eagle Grove, Iowa.

TOP OF THE HOPPER

(Continued from page 5)

U.S. EGG MARKETERS have made carton-coding a common practice in quality control. But the Danes have gone a step farther. It's been reported by European visitors that the Danes number every egg marketed so that when an off-color, off-flavor egg shows up its producer can be pin-pointed accurately and easily. Danish producers are praised often for the high-quality eggs they market.

THE LONG-RANGE economic soundness of feed manufacturers directly financing or arranging for the financing of producer-owned poultry houses to promote feed sales in the Midwest has been questioned by some trade observers.

One school of thought has it that there are some producers who have taken on housing and equipment expansion programs which may prove to be too much of a financial burden.

Financing of this type in colder northern states may turn out to be a shaky risk for the producer, some observers say, because of the relatively high per bird cost of adequate housing. Such a program in the South sounds more feasible, they say.

"THERE'S ROOM FOR A LOT of bright young farm boys in the feed business," Wallaces' Farmer tells its readers. "A farm background gives you a head start toward most jobs in the feed industry. But the higher paying jobs and the advancements go to those who have specialized training. Add training to farm background and you can be set for a good career in the feed business." The article was one of the few we've come across in farm publications which singles out the feed industry as a career goal in the farm business field. More would be welcome. Forty-five feed companies which responded to a recent American Feed Manufacturers Assn. survey said they planned to hire 425 college graduates during the next year, which gives a pretty good indication of needs in the help wanted department.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand slow; supply plentiful; 400 D, 2,000 A 19¼¢ lb.; 300 D, 3,000 A 19¢; 300 D, 2,250 A 17½¢; 300 D, 1,500 A 16¢; 300 D, 750 A 14¢; 75 D, 750 A 13½¢.

ALFALFA MEAL

Portland: Demand good; trend steady; supply adequate; $42@62.90, sacked.

Ft. Worth: Demand fair; light offerings; sacked: dehydrated, 17%, 100,000 A $50@51, truck or rail; suncured: 13%, ¼-in. grind, No. 1 $46@47, truck; 15% fine ground, dry $49; with 2% fat added $51, rail or truck.

Boston: Demand spotty; supply ample; dehydrated, 17% $52; suncured, 13%, pellets $46.

Memphis: Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $48.

Omaha: Demand fair; trend steady; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $39; sacked meal $44, Omaha basis.

Philadelphia: Demand and supply fair; 17% dehydrated $51.50.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $48@49.

New York: Demand fair; trend steady; supply adequate; 1,500 A, 300 D 16¢ lb.; 2,250 A, 300 D 17½¢ lb.

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: Demand fair; supply ample; 10,000 A 21¢ lb.; 300 D, 2,250 A 17½¢ lb.; 300 D, 1,500 A 16¢ lb.; 300 D, 750 A, 15¾¢ lb.

Denver: Demand light; trend steady; supply ample; 21¢ lb.

Minneapolis: Production still rolling along because of good growing weather; market steady; 17% dehydrated, 100,000 A units, reground pellets $45, oiled reground pellets $47.

Chicago: Demand fair; trend firm; supply adequate; 17% protein, dehydrated, 100,000 units vitamin A $45.

Kansas City: Demand slow; trend stronger; supply adequate; 17% dehydrated alfalfa, 100,000 A, on arrival, pellets $40@42, reground pellets $44; 18% dehydrated alfalfa, 125,000 A, on arrival, pellets $42@45, reground pellets $46; 20% dehydrated alfalfa, 150,000 A, on arrival, pellets $45@50, reground pellets $46@51; suncured alfalfa, demand slow, supplies scarce, 13% pellets $36@37 bulk, No. 1 ¼-in. $38.50 sacked.

St. Louis: Demand slow; trend strong; supply limited; suncured, 13% fine, sacked $46; dehydrated, 17%, 100,000 A, pellets, demand slow, trend steady, supply ample, bulk $44.

Buffalo: Demand fair to poor; trend steady to lower; supply adequate; $54, sacked, Boston.

Los Angeles: Demand slow; trend steady; supply adequate; dehydrated meal, 17% protein, 100,000 A $51; dehydrated pellet meal, 17% protein, 100,000 A $52@54; suncured meal, 16% protein $45@46; suncured crumbles, 15% protein $47@48.

Seattle: Demand fair; trend firm; supply good; 15% protein suncured $48, delivered truck loads; 150,000 A unit dehydrated $68, delivered truck loads, both sacked.

Denver: Demand fair; trend steady; supply ample; dehydrated meal $49, sacked; pellets $46, bulk, Denver.

ANIMAL FAT (STABILIZED)

Louisville: Demand improving; trend stronger; supply good; market up ½¢ lb.; bleachable white 6¼¢ lb., white tallow 6⅛¢ lb., yellow grease 6¢ lb., all in tank cars.

Ogden: Supply ample; $5.50 cwt.

Ft. Worth: Demand good; supply sufficient; prime tallow, tank cars 5¾¢ lb.; drums 7¾¢ lb.; f.o.b. north Texas packing plants with returnable drums.

San Francisco: Demand fair; supply ample; bleachable fancy 6¢ lb.; yellow grease 4¾¢ lb.

Boston: Demand slow; supply plentiful; tallow 5¾¢ lb.; yellow grease 4¾¢ lb.

Kansas City: Demand slow; trend easy; supply ample; prime stabilized tallow 5⅝@5½¢ lb.

Chicago: Demand fair; trend easier; supply ample; tank truck or carload, bleachable fancy tallow $5.87½ cwt., yellow grease $5 cwt.

St. Paul: Market steady; demand good; supply ample; bleachable fancy 5¾¢ lb., f.o.b. producer's plant.

Atlanta: Demand good; trend steady; supply ample; 5¾¢ lb., f.o.b. Georgia and Alabama processing plants.

Salisbury, Md.: Demand excellent; supply limited; 5¾¢ lb.

BARLEY FEED

San Francisco: Demand fair; supply ample; rolled $58, ground $57.

Philadelphia: Demand slow; supply fair; $42.

Portland: Demand good; trend firm; supply tight; $43@43.50.

Ogden: Supply ample; rolled $43@44, whole $38@39.

Boston: Demand and supply light; $47.

Baltimore: Demand fair; trend steady; supply moderate; $46.50, sacked.

Chicago: Demand and supply fair; trend firm; $36, sacked.

Milwaukee: Demand limited; supply ample; trend unchanged; feed barley 84¢ bu., bulk; barley feed $36 ton, sacked; ground feed barley $41.50 ton, sacked.

Los Angeles: Demand fair; trend firm; supply adequate; standard rolled $3 cwt., standard ground $3 cwt., both sacked.

Seattle: Demand and supply good; trend steady; $44, truck lots.

Denver: Demand and supply fair; trend steady; rolled $1.90 bulk, $2.35 sacked.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30 ton carlots; 80 granular $31.50, less than carlots $40; 200 mesh fine $31, less than carlots $40.

Chicago: Demand fair; supply ample; trend steady; f.o.b. Wyoming and South Dakota shipping points: 200 mesh $14 and net $13.75; fine granular (80 to 100 mesh) $14.25 and net $14; granular, 30 mesh $16.50 and net $16.25.

Denver: Demand slow; trend steady; supply ample; $24.50, warehouse.

BLOOD FLOUR

Louisville: Demand dull; trend steady; supply ample; $75@80, sacked.

BLOOD MEAL

Omaha: Demand good; trend fair; supply plentiful; 80% $90, sacked, Omaha.

Portland: Demand fair; trend steady; supply ample; $110, sacked.

Louisville: Demand slow; trend steady; supply good; $75@80, sacked.

Ogden: Supply ample; $82.50.

San Francisco: Demand and supply fair; $5.40 a unit of ammonia, sacked.

Chicago: Demand slow; trend firm; supply ample; 80% protein $115 sacked.

Los Angeles: Demand slow; trend steady; supply adequate; $6 a unit of ammonia, sacked.

BONE MEAL (STEAMED)

San Francisco: Demand good; supply ample; $75, sacked.

Boston: Demand and supply steady; $100.

Louisville: Demand dull; trend steady; supply light; $80@85.

Ft. Worth: Demand fair; supply light; $100, sacked, f.o.b. Ft. Worth, local manufacture.

Portland: Demand fair; supply adequate; trend unchanged; $97@97.50, sacked.

Cincinnati: Demand fair; trend steady; supply ample; $96, sacked, Cincinnati.

Los Angeles: Demand and trend steady; supply limited; imported $79.75, 20 ton lots, sacked.

Buffalo: Demand and supply light; trend steady; $97, sacked.

Chicago: Demand quiet; trend firm; supply adequate; $80, sacked.

Seattle: Demand good; trend firm; supply limited; $92, sacked, f.o.b. car Seattle.

Denver: Demand normal; trend steady; supply ample; $110, Denver.

BREWERS DRIED GRAINS

San Francisco: Demand fair; supply ample; $51, sacked.

Philadelphia: Demand fair; supply light; trend unsettled; $52.

Boston: Demand fair; supply light; 26% $50.

Ft. Worth: Demand fair; supply sufficient; 26% protein $48.90, September.

Louisville: Demand and supply good; trend strong; $48, up $2; brewers grains in better demand due to small production and advanced prices of distillers grains.

Cincinnati: Demand poor; trend steady; supply adequate; $47.

Milwaukee: Demand and supply fair; trend strong; $40@40.50 ton, bulk; $48@48.50 ton, sacked.

St. Louis: Demand fair; trend steady; supply adequate; $39.

Buffalo: Demand and supply fair; trend steady to higher; $51.50, Boston.

Chicago: Demand good; trend higher; supply fair; 26% protein $37@38.50.

Los Angeles: Demand and trend steady; supply adequate; $49.50.

BREWERS DRIED YEAST

Boston: Demand and supply steady; 11¢ lb.

Louisville: Demand fair; trend steady; supply good; 10@10½¢ lb.

Omaha: Demand and trend fair; supply plentiful; 11¢ lb.

Portland: Demand fair; supply ample; trend unchanged; 11@12¢ lb.

San Francisco: Demand fair; supply good; 10¢ lb., sacked.

Cincinnati: Carlots 11¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

Los Angeles: Demand and trend steady; supply adequate; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12½¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10½@12½¢ lb., ton lots, sacked.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Pittsburgh: Carlots 10¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New Orleans: Carlots 10¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New York: Carlots 9½¢ lb., 10 ton lots 10¢ lb.; 5 ton lots 10½¢ lb.; ton lots 11¢ lb, all sacked, f.o.b. New Jersey.

Buffalo: Demand fair; trend steady; supply ample; $9.05 cwt.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

Denver: Demand light; trend steady; supply ample; 1¢ lb., West Coast, supply ample; 9¢ lb.

BUTTERMILK (CONDENSED)

Ogden: Supply good; $4.40 cwt., drum.

Louisville: Demand dull; trend steady; supply nil; $4.25 cwt., in paper drums.

Philadelphia: Demand slow; supply fair; $4.25 cwt.

San Francisco: Demand fair; supply good; $5 cwt., drums.

Boston: Demand and supply steady; 4¼¢ lb.

Chicago: Demand slow; trend firm; supply ample; 500 lb. barrels $3.25@3.50 cwt.

Los Angeles: Demand and supply limited; trend steady; 5½¢ lb., 100 lb. lots; 4¾¢ lb., 500 lb. lots; both in barrels.

CALCITE CRYSTALS AND FLOUR

(All prices net, sacked, including freight)

New York: Crystals $16.28, flour $10.28.

Buffalo: Crystals $17.11, flour $11.11.

Toledo: Crystals $18.96, flour $12.96.

Boston: Crystals $17.63, flour $11.63.

Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

Los Angeles: Demand slow; supply adequate; trend steady; flour $10.15, 20 ton cars; meal, $11.15, 20 ton cars, both sacked.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $12.75; 100 lb. bags $12; bulk, boxcar $10.50; bulk, hopper $10; coarse grind $1 premium, delivered Minneapolis.

Seattle: Demand and trend steady; supply good; $14, sacked, ex-warehouse.

CHARCOAL

San Francisco: Demand steady; supply ample; $141, sacked.

Boston: Demand and supply light; granular No. 6 $110.

Chicago: Demand fair; trend firm; supply fair; 50 lb. multiwalls $110.

Los Angeles: Demand slow; trend unchanged; supply adequate; hardwood poultry $156, less than ton lots; $144.40 ton lots; both sacked.

COCONUT OIL MEAL

Portland: Demand slow; supply adequate; trend unchanged; $70.50.

San Francisco: Demand good; supply tight; solvent $67.50.

Los Angeles: Demand steady; trend firmer; supply adequate; copra cake $73, September-October.

Seattle: Demand fair; trend easy; supply ample; solvent type $75, f.o.b. car Seattle, sacked.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply plentiful; 300 D, 3,000 A 20¢ lb.; 600 D, 2,250 A 18½¢; 300 D, 2,250 A 18¢; 600 D, 1,500 A 17¢; 300 D, 1,500 A 16½¢.

New York: Demand fair; trend steady; supply good; 1,500 A, 300 D 16½¢ lb.; 3,000 A, 300 D 20¢ lb.

CONDENSED FISH SOLUBLES

Boston: Demand slow; supply plentiful; 3¢ lb.

New York: Demand fair; trend light; supply ample; $40.

Los Angeles: Demand and trend steady; supply adequate; 2@2½¢ lb.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $5 more)

Minneapolis: Feed $41.60, meal $66.60.
Atlanta: Feed $45, meal $70.
Birmingham: Feed $43.60, meal $68.60.
Boston: Feed $46.50, meal $71.50.
Chicago: Feed $35, meal $60.
Cleveland: Feed $42.90, meal $67.90.
Denver: Feed $45.20, meal $70.20.
Ft. Worth: Feed $43.70, meal $68.70.
Indianapolis: Feed $40.20, meal $65.20.
Kansas City: Feed $35, meal $60.
Louisville: Feed $42.60, meal $66.60.
New Orleans: Feed $44.90, meal $69.90.
New York: Feed $46.10, meal $71.10.
Norfolk: Feed $45.50, meal $70.50.
Philadelphia: Feed $45.70, meal $70.70.
St. Louis: Feed $35, meal $60.

CORN OIL MEAL

Louisville: Demand very dull; supply quite light; trend steady; $49.60, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; $41.

COTTONSEED OIL MEAL

Wichita: Demand fair; supply ample; 41% old process $63, sacked.

Portland: Demand fair; trend steady; supply ample; $64.

Omaha: Demand slow; trend steady; supply tight; 41% solvent $63, delivered Omaha.

Ogden: Supply good; 41% $67@71.

Louisville: Demand slow; trend stronger; supply normal; new or old process, level at $67, sacked, up 50¢.

Ft. Worth: Demand good; supply sufficient on meal, scarce on hulls; 41% old process $59, f.o.b. mills Ft. Worth; carlots, solvent, 2% fat added $57.20, September; $58.20, October, November, December, delivered Ft. Worth; pellets $1 additional; hulls $22.

San Francisco: Demand good; supply ample; 41% $61, 44% $64.

Philadelphia: Demand and supply fair; trend unsettled; $64.50.

Memphis: Demand fair; trend steady; supply ample; prime 41% protein, old process $54; new process, 41% solvent $51.

Boston: Demand and supply light; $70.50, nominal.

Cincinnati: Demand poor; trend steady; supply adequate; $63.

Buffalo: Demand fair to poor; trend steady; supply adequate; $75.50, sacked, Boston.

St. Louis: Demand slow; trend easier; supply ample; solvent $56.

Kansas City: Demand good; trend steady; supply adequate; 41% old process $65@65.50; solvent process $60.70, Kansas City.

Chicago: Demand fair; trend higher; supply moderate; Memphis basis, hydraulic $54.50.

Seattle: Demand fair; trend easy; supply ample; $67, f.o.b. car Seattle.

Atlanta: Demand fair; trend steady; supply limited; 41% $55, Georgia, Alabama and South Carolina; $52, Mississippi producing mills.

Los Angeles: Demand slow; trend steady; supply adequate; $59.

Denver: Demand and supply fair; trend steady; $59.40.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $46.50 sacked, $43.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand slow; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9¾¢ lb.; 3,000 ICU 11¢ lb.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18%, $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck loads of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $74.35 net ton, f.o.b. Houston, 100 lb., multiwall bags; $71.35 bulk.

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $66.25, sacked, 100 lb. multiwall bags, bulk $63.25; truck load $67, sacked, in 100 lb. multiwall bags, bulk $64, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $57.07, f.o.b. Tupelo in 100 lb. multiwall bags, $54.07 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Portland: Demand fair; trend steady; supply adequate; $93.50, delivered for product carrying a minimum of 18% phosphorus, 31.5% calcium and a maximum of 0.1% fluorine; $92, dock for a minimum of 10 ton lots.

Cincinnati: 18% phosphorus $81.02; 14% phosphorus $71.03, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18¼% P $83, bulk, boxcar/hopper car; $86, bagged, in carloads or truck loads; $96 bagged, in less than carload lots; 21% P, $94.65, bulk, boxcar/hopper car; $97.64, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk 18.5% phosphorus, carlots or trucks $83; 20,000 lb. or more $86 net ton in 100 lb. papers; less than 20,000 lb. $96, basis Chicago Heights, Ill., or Nashville, Tenn.; 21% phosphorus, carlots or trucks, bulk $94.65; 20,000 lb. or more, per net ton in 100 lb. papers, $97.65 and less than 20,000 lb., $107.65, basis Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18¼%, granular, $86 (or $4.65 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truckloads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18¼%, minimum calcium 24% $86, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $80.50, sacked in 100 lb. multiwall bags, bulk $77.50, f.o.b. Texas City.

Denver: Demand good; trend steady; supply ample; $93.50, delivered.

Cincinnati: 18¼% phosphorus $92.15, f.o.b. Cincinnati.

DISTILLERS DRIED GRAINS

Louisville: Demand fair; trend steady;

supply light; for September, bourbon grains: light $54, dark $56, solubles $73, all sacked.
Boston: Demand steady; supply short; dark $60.
San Francisco: Demand fair; supply ample; solubles $79, sacked.
Philadelphia: Demand fair; supply very light; $61.
Cincinnati: Demand poor; trend steady; supply adequate; $60.
Buffalo: Demand fair to good; trend steady to higher; supply poor; $62, Boston.
Seattle: Demand fair; trend firm; none available; $69, sacked, delivered truck lots.

DRIED BEET PULP

San Francisco: Demand good; supply fair; $41.30.
Portland: Demand fair; trend steady; supply scarce; $51.60, sacked.
Ogden: Supply scarce; $41@46.
Ft. Worth: Demand slow; new crop offerings just starting; plain or molasses $56@57, sacked, 50 lb. papers, October, November, December.
Boston: Demand active; supply irregular; $55.50@56.
Seattle: Demand good; trend firm; supply limited; $52, sacked, delivered, carlots.
Los Angeles: Demand slow; supply ample; trend unchanged; $45.40@45.50.
Atlanta: Demand fair; trend steady; none available; $57.81, sacked, delivered late September-December.
Buffalo: Demand fair; trend steady to higher; supply poor; $56, sacked, Boston.
Denver: Demand strong; supply short; none available at any price.

DRIED BUTTERMILK

Louisville: Demand dull; trend steady; supply light; 12@12½¢ lb., sacked.
Ogden: Supply good; $17.25 cwt.
San Francisco: Demand fair; supply ample; 13½¢ lb., sacked.
Boston: Demand light; supply short; 14¢ lb.
Buffalo: Demand fair; trend steady; supply ample; $12.85 cwt.
Chicago: Demand slow; trend higher; supply fair; medium acid $10.75@11.25 cwt., sweet cream $10.75@11.25 cwt., both sacked.
Los Angeles: Demand slow; trend steady; supply adequate; 13¼@13¾¢ lb., sacked.
Milwaukee: Demand and supply limited; trend unchanged; $12.50 cwt.

DRIED CITRUS PULP

Boston: Demand slow; supply tight; $47.50, sacked, nominal.
San Francisco: Demand and supply fair; $48, sacked.
Los Angeles: Demand good; trend steady; supply limited; orange pulp $42; lemon pulp $40.
Buffalo: Too scarce to quote.
Atlanta: Demand good; trend strong; supply very limited; $47.50@50, sacked; meal demand good, trend steady, supply limited, $42.50, sacked; both Florida producing plants.

DRIED SKIM MILK

Philadelphia: Demand slow; supply fair; $13 cwt.
Portland: Demand fair; supply good; trend unchanged; mostly 13¢ lb.
Omaha: Demand good; trend strong; supply short; 12¢ lb.
Louisville: Demand slow; trend steady; supply light; 12@12½¢ lb., sacked.
Ogden: Supply ample; $15.15 cwt., drum.
San Francisco: Demand and supply fair; 14½¢ lb., sacked.
Boston: Demand active; supply scarce; 12½¢ lb., nominal.
Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked.
Milwaukee: Demand and supply limited; trend unchanged; $13 cwt.
Buffalo: Demand fair; trend steady; supply ample; $13.35 cwt.
Chicago: Demand improved; trend higher; supply fair; $10.75@11.25 cwt., sacked.
Minneapolis: Market showing good strength; 12¢ lb.
Los Angeles: Demand and supply limited; trend steady; 15¢ lb., less than ton lots; 14¾¢ lb., ton lots; both sacked.

DRIED WHEY

Boston: Demand good; supply fair; 5¼¢ lb., f.o.b.
San Francisco: Demand steady; supply good; $5.75 cwt.
Philadelphia: Demand slow; supply fair; $6.25 cwt.
Ft. Worth: Demand fair; supply adequate; carlots, standard $5.75 cwt., sacked, delivered Ft. Worth; ton lots $6, f.o.b. warehouse Ft. Worth.
Portland: Demand fair; trend steady; supply ample; $5.95 cwt., sacked.
Ogden: Supply good; $6.90 cwt., sacked.
Omaha: Demand and supply good; trend strong; $5.50 cwt.
Louisville: Demand slow; trend easy; supply light; $5.75@6 cwt., sacked.
Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked.
Minneapolis: Demand slow; supply ample; price steady at $5.45 cwt.
Kansas City: Demand fair; trend steady; supply adequate; regular or partially delactosed $5.50 cwt., sacked.
Chicago: Demand quiet; trend firm; supply fair; $4.75 cwt., sacked.
Los Angeles: Demand slow; trend easier; supply adequate; $5.18 cwt., carloads; $5.35 cwt., l.c.l.; both sacked.
Seattle: Demand steady; trend easy; supply good; $6.25 cwt., ex-warehouse, l.c.l.
Denver: Demand weak; trend steady; supply ample; $5.75 cwt., truck.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand good; supply limited; 85-87% protein $70@72.50, sacked, f.o.b. trucks, north Texas plants.
Boston: Demand and supply fair; $69, f.o.b.
Atlanta: Demand fair; trend steady; supply ample; $70, f.o.b. Georgia and Alabama processing plants.
Los Angeles: Demand fair; trend steady; supply adequate; $1 a unit of protein, sacked.
Salisbury, Md.: Demand spotty; supply ample; $70, f.o.b.

FISH MEAL

San Francisco: Demand slow; supply ample; $1.40 a unit of protein, sacked.
Louisville: Demand very dull; supply light; trend steady; $125, sacked.
Ft. Worth: Demand fair; supply sufficient; sacked: 65% protein Peruvian $91, September; 60% protein menhaden $99, delivered Ft. Worth.
Portland: Demand fair; trend steady; supply tight; $1.70 a protein unit, sacked.
Omaha: Demand fair; trend stronger; supply plentiful; 60% menhaden $110, f.o.b. Omaha.
Ogden: Supply ample; $1.05 a unit, f.o.b. Coast; 65% $106@108.
Boston: Demand fair; supply plentiful; menhaden, 60% $93, sacked; 57% $85, sacked.
Cincinnati: Demand fair; trend steady; supply adequate; $108.
Milwaukee: Demand limited; trend higher; supply adequate; 60% $114, sacked, Chicago.
Buffalo: Demand fair; trend steady; supply ample; 60% protein menhaden $103 bulk, $108 sacked.
New York: Demand fair; trend slow; supply adequate; 60% menhaden meal $98, sacked, f.o.b. shipping points.
Chicago: Demand remains quiet; supply liberal; trend firm; sacked: menhaden, East Coast $90@95, Gulf $90@93, menhaden scrap, East Coast $86@91, Gulf $86@91; Canadian herring meal $1.55 a unit of protein.
Seattle: Demand fair; trend firm; supply good; $1.65 a unit protein, ex-dock Seattle (Alaskan production).
Minneapolis: West Coast 60% blended steady at $112, sacked, delivered; Alaskan herring off 1¢ to $1.52 a unit, f.o.b. West Coast, subject to production.
Atlanta: Demand better; trend steady; supply ample; 60% menhaden $89@95, Atlantic and Gulf ports.
Los Angeles: Demand improved; trend firmer; supply light; local production, 60% protein $1.50 a unit, sacked.
Denver: Demand fair; trend rising; supply short; $1.54 a protein unit, f.o.b. West Coast.

HAY

Louisville: Demand very dull; trend easy; supply good on old hay, some new hay available but dealers not handling for fear of heating, and as they have plenty of old hay on hand; No. 1 hay, any variety (local) $30 ton; No. 2, $28; straw, any variety. No. 1 $18@20 ton; some new alfalfa being sold.
Portland: Demand good; trend steady; supply adequate; alfalfa $31@34 ton, baled, Portland-Seattle.
Ogden: Supply ample; $20 in the field; $23 in the barn.
Philadelphia: Demand slow; supply fair; $24.50@25.50.
Boston: Demand slow; supply ample; No. 2 timothy $40@42.
Wichita: Demand low for prairie, fair for alfalfa; supply sufficient; prairie, $19@21; alfalfa, $20@22 baled.
Ft. Worth: Demand fair for alfalfa, practically nil for others; carlots, baled, No. 1 alfalfa $40@42, No. 2 $38@40; No. 2 prairie, nominal $30@32; No. 2 Johnson, nominal $28@30, delivered Texas common points.
Cincinnati: Demand slow; trend steady; supply adequate; by truck—No. 1 timothy $24; No. 1 red clover $26; wheat or oat straw $18.
Los Angeles: Demand slow; trend steady; supply adequate; U.S. No. 1 $32@34; U.S. No. 2 leafy $29@30; U.S. No. 2 green $31@32; U.S. No. 2 $27@28.
Seattle: Supply fair; trend steady; supply good; alfalfa, U.S. No. 2 green $32, delivered truck lots, baled.

HOMINY FEED

Boston: Demand fair; supply light; $49.
Louisville: Demand dull; trend steady; supply light; $47, sacked.
Memphis: Demand poor; trend steady; supply ample; white and yellow, both $41.20.
Cincinnati: Demand poor; trend lower; supply adequate; $39.50.
Chicago: Demand slow; trend steady; supply fair; $39.
St. Louis: Demand slow; trend steady; supply ample; yellow $38.50.
Kansas City: Demand fair; trend steady; supply tight; white or yellow $33@33.50.
Buffalo: Demand and supply fair; trend steady; $49.50, Boston.
Milwaukee: Demand and supply fair; trend unchanged; $45.50 sacked, $41 bulk, both Chicago basis.
Seattle: Demand fair; trend steady; supply limited; $54, delivered carlots.

LINSEED OIL MEAL

Boston: Demand slow; supply limited; $73.
Philadelphia: Demand fair; supply light; 34% $70.20.
Portland: Demand slow; supply adequate; trend unchanged; $83.75, sacked.
Ft. Worth: Demand slow; supply sufficient; 34% protein, solvent $68.50@69, September, rail.
Louisville: Demand slow; trend easy; supply light; old process $76.50, new process $70.50, both sacked.
Omaha: Demand fair; trend steady; supply tight; 34% solvent $57.80 bulk; 32% old process $63.80, Omaha basis.
Wichita: Demand fair; supply ample; 34% $78, sacked.
San Francisco: Demand fair; supply ample; $69.50.
Cincinnati: Demand slow; trend steady; supply adequate; new process $53, old process $58.50, Minneapolis.
Seattle: Demand fair; trend steady; supply good; 31% protein (California) $92, delivered carloads, sacked.
Kansas City: Demand fair; trend steady to easier; supply ample; solvent process $52@52.50, old process $57.50@58, Minneapolis.
Chicago: Demand and supply fair; trend irregular; Minneapolis basis: solvent $52.50, expeller $58.50.
Milwaukee: Demand limited; trend weaker; supply fair; expeller $70, solvent $62, both Chicago basis.
Minneapolis: Solvent steady at $52.50, immediate shipment; expeller for next week up $1 to $58.50.
Los Angeles: Demand limited; trend unchanged; supply ample; local production, 31% protein $73, old crop.
Denver: Demand slow; trend firm; supply ample; $72, sacked, Denver.

LIVER & GLANDULAR MEAL

Omaha: Demand slow; trend fair; supply ample; 65% $175, sacked, Omaha.

MALT SPROUTS

Boston: Demand and supply limited; $48, sacked, nominal.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $38.
Chicago: Demand slow; trend steady; supply fair; $37.
Milwaukee: Demand good; trend firm; supply limited; $34.50@35 bulk; uneven weights $39@40; even weights $42@42.50.

MEAT AND BONE MEAL

Louisville: Demand slow; trend steady; supply good; $75@80, sacked.
Ft. Worth: Demand fair; supply ample; meat and bone, 50% $71 bulk, $74 sacked, f.o.b. Ft. Worth.
Portland: Demand good; trend lower; supply ample; $67.50, sacked.
Ogden: Supply ample; 50% protein $75 sacked.
Omaha: Demand good; trend strong; supply plentiful; $75.
San Francisco: Demand fair; supply ample; $1.40 a unit of protein.
Boston: Demand slow; supply adequate; $1.05 a protein unit; converted 50% $65.
Wichita: Demand fair; supply sufficient; 50% $80, sacked, f.o.b. plant.
Cincinnati: Demand good; trend steady; supply fair; $71, Cincinnati.
St. Paul: Slightly stronger market; demand fair; supply ample; sacked up $1 to $73@76, bulk up $3 on high side at $70@75.
Buffalo: Demand fair; trend barely steady; supply light; 50% meat scraps $70 bulk, $75 sacked.
Chicago: Demand slow; trend steady; supply ample; 50% protein $77.50, sacked.
Kansas City: Demand fair; trend steady; supply ample; 50% $70.
St. Louis: Demand slow; trend steady; supply ample; $69.
New York: Demand steady; trend good; supply good; 50% $62.50, 55% $68.50, New York.
Los Angeles: Demand limited; trend easier; supply moderate; 50% protein $1.40 a unit.
Seattle: Demand good; trend easy; supply ample; $1.50 a unit protein, ex-processing plant.
Denver: Demand fair; trend steady; supply ample; $64, f.o.b. plant.

MILLFEED

Minneapolis: Bullish effects of eastern rail strike reaching this market; bran up $1.50 from last week to $35, sacked; middlings $4 higher at $35.50, sacked; red dog still sliding, down $1 this week to $42, sacked.
Wichita: Demand good; supply adequate; Sept. 6 basis Kansas City: bran $31.75@32.25, shorts $31.75@32.25, sacked; both bran and shorts advanced 50¢ compared with the preceding week.
Ft. Worth: Demand fair; offerings light for immediate shipment; bran, bulk $36, burlaps $41.50; gray shorts, bulk $37, burlaps $41.50; bulk middlings $36.50, delivered Texas common points; bulk bran $2.50 higher, sacked bran $1.50 higher; shorts $1.50@2 higher; middlings $2 higher, compared with previous week.
Chicago: Middlings prices up $2@2.50 ton; tie-up in eastern mills due to rail strike, especially in Buffalo territory, brought about a switch to Chicago as a source of supplies; bran up 50¢ and red dog off $1; cariot quotations: bran $31.50, middlings $33.50@34, red dog $41.50.
Cincinnati: Demand fair; trend steady; supply adequate; bran $36, middlings $38.
Omaha: Demand good; trend steady; supply ample; sacked bran $34; sacked gray shorts $34; bulk standard midds. $28.50; all Omaha basis.
Boston: Demand spotty; supply irregular; bran $41@43, middlings $43.50.
Philadelphia: Demand and supply fair; bran $40, standard midds. $41, red dog $51.50.
Memphis: Demand poor to fair; trend steady to higher; supply ample; wheat bran $33.20, gray shorts $35.20, standard midds. $34.20.
Louisville: Demand slow; trend stronger; supply good; bran $43.65, mixed feed $44.15, shorts $55.15, all sacked.
Seattle: Demand fair; trend easy; supply limited; $38, delivered common transit points, carlots.
Portland: Demand slow; trend lower; supply ample; $35@37.
Ogden: Supply good; to Utah and Idaho: red bran and mill run $35, middlings $40; to Denver: red bran and mill run $42, middlings $47; to California: red bran and mill run $42.50, middlings $47.50, f.o.b. San Francisco and Los Angeles.
Denver: Demand good; supply short by improper position; shorts $37.75, bran $37.75, mill run $37.75.
San Francisco: Demand slow; supply ample; millfeed $45, red bran $46.
Los Angeles: Demand slow; trend easier; supply adequate; standard mill run $44; red bran $45@46.

MINERAL FEED

Ft. Worth: Demand fair; supply adequate; all-purpose granules $90, block $70; mineral phosphorus 6% granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50 lb. paper bags).
San Francisco: Demand steady; supply good; all purpose with iodine, $70 sacked.
Portland: Demand good; trend steady; supply ample; $44@45, sacked.
Ogden: Supply ample; $113 ton in 50 lb. blocks; $103 ton, granular, 50 lb. bags.
Wichita: Demand good; supply sufficient; all-purpose with iodine, 50 lb. blocks $97.50, 100 lb. bags $92.50, f.o.b. plant.
Buffalo: If rail strike continues supplies will become tighter and levels will advance, price variations already taking place between affected and unaffected mills; sacked differential on bran and middlings steady at $5, bulk and sacked bran unchanged; bulk and sacked middlings up 50¢, with middlings becoming tighter than bran; bulk and sacked red dog off 50¢; quotations Sept. 7: bulk bran $33@34.50, sacked $38@39.50; bulk middlings $34.50@37.50, sacked $39@42; bulk red dog $41.50@43, sacked $46.50@47.50.
Kansas City: Demand good; trend strong; supply tight; sacked, bran $33@33.50, shorts $33@33.50; bulk, bran $27@27.50, shorts $28.50@29, middlings $28@28.50.
St. Louis: Demand slow; trend firm; supply ample; sacked bran $39, shorts $39; bulk bran $32, middlings $33.
Sioux City: 50 lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $1 each.
Seattle: Demand fair; trend steady; supply good; mixer mineral $48, all-purpose mineral $85, both ex-warehouse, sacked.

MOLASSES

Kansas City: Demand fair; trend strong; supply tight; blackstrap 10½@11½¢ gal., f.o.b. New Orleans.
New York: Demand fair; trend slow; supply adequate; 14¢ gal., Albany; 13½¢ gal., Baltimore and New York; $28 ton, Buffalo.
Buffalo: Demand fair; trend steady; supply adequate; 14¢ gal., f.o.b. Albany.
St. Louis: Demand slow; trend strong; supply ample; 11½¢ gal., tank car, New Orleans.
Milwaukee: Demand fair; trend unchanged; supply ample; blackstrap 10½¢ gal., f.o.b. New Orleans.
Boston: Demand fair; supply ample; 14¢ gal., in tank cars.
Louisville: Demand dull; trend strong; supply light; 11½¢ gal., tank car lots, f.o.b. Gulf ports; price up 1¢ gal.; it is alleged that increase is due to industrial alcohol distillers buying up molasses; feed mixers are using but little at this time.
Ft. Worth: Demand fair; supply sufficient; blackstrap 12¢ gal., f.o.b. Houston; delivered Ft. Worth truck $26.80, seller's market price on date of shipment.
Memphis: Demand fair to slow; trend steady; supply ample; blackstrap 10½¢ gal., tank car, f.o.b. New Orleans, and $23.55 ton, delivered Memphis, truck.
San Francisco: Demand and supply good; $21.75 ton, f.o.b. cars, Richmond, Cal.
Cincinnati: Demand fair; trend steady; supply adequate; 10½¢ gal., New Orleans.
Seattle: Demand fair; trend firm; supply good; $21.25, f.o.b. Seattle, tank truck lots.
Atlanta: Demand fair; trend steady; supply limited; citrus $18@20, f.o.b. Florida processing plants.
Los Angeles: Demand excellent; trend steady; supply ample; $21.50, f.o.b. tank cars; $21.75, f.o.b. tank trucks.
Denver: Demand fair; trend firm; supply ample; 11½¢ gal., New Orleans; $36.60 ton, Denver; $21.50 ton, West Coast.

NIACIN

New York: 50% $1@1.20 lb.

OAT PRODUCTS

Chicago: Demand quiet; trend steady to easier; supply ample; reground oat feed $15; No. 1 fine ground feeding oatmeal $70; feeding rolled oats $74.
Boston: Demand light; supply adequate; white pulverized $55, reground oat feed $28.
Ft. Worth: Demand slow; supply sufficient; 10% protein oat millfeed $42.20, reground $27.50, sacked, new jutes.
Cincinnati: Demand poor; trend weak; supply ample; 3½% protein, reground oat feed $23.75.
Louisville: Demand fair; trend stronger; supply normal; reground steady at $25.30; rolled oats, strong $80.80, up $1; feeding oatmeal, steady $76.80; pulverized oats, easy $51.30, off 50¢; crimped oats, easy $54.30, off 50¢; all sacked.
Philadelphia: Pulverized whites demand slow, supply fair $49; domestic demand slow, supply light $25.30; Canadian oat feed demand slow, supply light $28.50, sacked, nominal.
Cincinnati: Demand slow; trend steady; supply adequate; $47@53.
Minneapolis: No change from last week, except for slightly weaker price for pulverized; feeding rolled $75, sacked; feeding oatmeal $64, sacked; pulverized down $1 to $42.50, sacked; reground oat feed $24, sacked; crimped $58.50, sacked.
Los Angeles: Demand slow; trend unchanged; supply adequate; local production, pulverized $64, sacked.

OYSTER SHELL

Boston: Demand and supply steady; in paper $26.05.
Portland: Demand fair; trend steady; supply adequate; $27@35, sacked.
Louisville: Demand slow; trend steady; supply good; in 80 lb. paper sacks $23.45, in 50 lb. paper sacks $23.70, in 25 lb. paper sacks $25.96.
San Francisco: Demand fair; supply ample; local $15, eastern $26, sacked.
Cincinnati: Demand fair; trend steady; supply adequate; 80 lb. bags $23.85; 50 lb. bags $24.10; 25 lb. bags $26.35, sacked.
Seattle: Demand and trend steady; supply good; eastern $36, sacked, delivered carlots.
Los Angeles: Demand steady; trend unchanged; supply ample; $15.40, sacked.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; trend unchanged; 26% $42 sacked, $38 bulk, both Chicago basis.
Atlanta: Demand fair; trend steady; supply limited; 45% $55 for expeller; $50 for

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PEAT MOSS

Chicago: Demand and supply fair; trend firm; standard 7½ cu. ft. bale $3.80.
Boston: Demand and supply steady; $3.15 bale in carlots.
Portland: Demand fair; supply adequate; trend unchanged; $3@3.15, 5.6 cu. ft. bale.
Philadelphia: Demand slow; supply fair; $2.89 bale, f.o.b. pier.
San Francisco: Demand and supply fair; $3.65 a bale.
Cincinnati: Demand and supply good; truck loads $3.45 a bale, f.o.b. Cincinnati.
Los Angeles: Demand steady; trend unchanged; supply ample; Canadian, 5.6 cu. ft. bales $5.65.
Seattle: Demand fair; trend firm; supply good; $2.85 a bale, delivered, truck lots.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 99% KI in calcium stearate or carbonate mixtures: 250 lb. drums $1.35; 200 lb. in 100 lb. drums $1.36; 100 lb. drums $1.38; 25 lb. drums $1.41, f.o.b. Cincinnati.
Chittenango, N.Y.: Demand good; trend firm; supply ample; standard blends, 99% KI, 10% stearate or carbonate mixture: 100 lb. drums $1.25½ lb.; 200 lb. and up $1.23½ lb., all delivered.

POULTRY BY-PRODUCTS

Ft. Worth: Demand fair; supply sufficient; 55% protein $77.50@80, nominal, sacked, f.o.b. north Texas plants.
Boston: Demand fair; supply tight; $70, f.o.b.
Los Angeles: Demand fair; trend steady; supply adequate; $1.25 a unit of protein, sacked.
Salisbury, Md.: Meal demand good; supply ample; $78, f.o.b.
Atlanta: Demand good; trend steady; supply ample; meal $73, f.o.b. Georgia and Alabama processing plants.

RIBOFLAVIN

New York: $40 kilo in 4 and 16 gm./lb. mixtures.
Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gm. in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand improving; supply increasing, mills started this week, rice bran $32@33, f.o.b. south Texas rice mills; hulls $3.50, sacked, f.o.b. mills, September delivery.
San Francisco: Demand good; supply ample; bran $43, polished $47, both sacked.
Los Angeles: Demand and supply limited; trend steady; California production, high fat content, bran $43, sacked.
Atlanta: Demand good; trend steady; none available; bran $44, nominal, delivered.

SCREENINGS

Buffalo: Demand fair; trend steady to lower; supply adequate; ground, sacked $36.75, New York, lake and rail; unground, bulk $28.50, New York.
Chicago: Demand moderate; trend easier; supply fair; ground grain $31.90@32.40; Canadian $24.40@24.90.
Cincinnati: Demand fair; trend steady; supply adequate; unground grain screenings $21.50@22.50.
Minneapolis: Softer tone evident in general market; Canadian off $1 to $19, Duluth; supplies too tight for good trading; domestics offered more freely, but prices dipping into low part of range: $8@12 on lights, $13@20 on mediums and $21@30 on heavies; 15% flax screenings demand slow, price down $2 from last week to $32.

SORGHUMS

Ogden: Supply good; $43@44.
Ft. Worth: Demand fair; offerings increasing; No. 2 yellow milo $1.90@1.93 cwt., delivered Texas common points.
Los Angeles: Demand steady; trend weaker; supply adequate; milo $2.10 cwt.
Seattle: Demand fair; trend firm; supply good; $48, delivered carlots.

SOFT PHOSPHATE WITH COLLOIDAL CLAY
(Sacked)

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.93@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SOYBEAN OIL MEAL

Milwaukee: Demand fair; trend strong; supply adequate; $54, Decatur.
St. Louis: Demand fair; trend strong; supply ample; 44% $58.50.
Kansas City: Demand slow; trend strong; supply adequate; 44% solvent process $51.50 @52, Decatur.
Chicago: Up minimum of $2 ton, unrestricted billing 44% meal up $3; offerings dried up still further, demand not particularly aggressive, lack of pressure was more than enough to bring about higher price trend; Decatur basis: 44% protein, unrestricted billing $55.50@57, eastern trunk line $53.50; 50% protein, unrestricted $60.50, eastern trunk line $58.

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Ogden: Supply good; 44% protein $70@72; 50% protein $75@77.
Ft. Worth: Demand fair; offerings light on immediate; 44% $63.50@64.50 September, $62.50 October-December; 50% $69.50 September, $68.50 October-December.
Omaha: Demand good; trend strong; supply tight; 44% $56.50, delivered Omaha.
Wichita: Demand good; supply ample; 44% $63, 50% $69, sacked; 44% $60, 50% $66, bulk, f.o.b. Wichita.
Memphis: Demand poor; trend steady; supply ample; prime 44% solvent $58.50, f.o.b. Memphis.
Louisville: Demand slow; supply light; trend stronger; $54.50, sacked.
Portland: Demand fair; trend barely unchanged; supply adequate; $72.90.
San Francisco: Demand fair; supply ample; $73.75.
Philadelphia: Demand and supply fair; 44% $53, Decatur.
Boston: Demand good; supply spotty; 44% $53, 50% $57.50@58, both f.o.b. Decatur.
Cincinnati: Demand fair; trend higher; supply adequate; $54@55, Decatur.
Seattle: Demand good; trend firm; supply ample; $75, delivered, carlots.
Denver: Demand fair; trend firm; supply ample; 44% $55.50, Denver.
Minneapolis: Supply down; demand up; 44% solvent stronger by about $2.50, Sept. 8 price $48.50, Decatur; 50% solvent up $1.50 to $53.50, Decatur.
Los Angeles: Demand improved; trend firmer; supply light; $75.90.
Atlanta: Demand good; trend strong; supply limited; 44% $63, delivered.

TANKAGE

St. Paul: Steady market; demand fair; supply ample; $72@75 sacked, $69@71 bulk.
Cincinnati: Demand good; trend steady; supply short; 60% digester $71.50, Cincinnati.
Wichita: Demand fair; supply sufficient; 60% $80, f.o.b. plant, sacked.
Kansas City: Demand fair; trend steady; supply ample; 60% digester $70.
St. Louis: Demand slow; trend steady; supply ample; $70.
Chicago: Demand quiet; trend firm; supply adequate; 60% protein $77.50, sacked.
Ft. Worth: Demand poor; supply ample; 60% digester $75, sacked, Ft. Worth.
Omaha: Demand good; trend strong; supply plentiful; $75.
Louisville: Demand slow; trend steady; supply good; $75@80, sacked.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; supply limited; 5¼¢ lb., f.o.b. south Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; 50 lb. or more $1.46, less than 50 lb. $1.50; freight allowed to destination.

WHEAT GERM MEAL

Buffalo: Demand fair; trend higher; supply fair to poor; commercial grade $66, sacked, f.o.b. Buffalo.
Minneapolis: Slightly better demand compared with last week; higher price trend continues; this week's $59, jutes, $1 higher than week earlier.

CREDIT

(Continued from page 1)

whereas repayments by producers increased.

"Judging from the data for July this year and last year, manufacturers stepped up their financing of producers significantly in July," the Atlanta bank said.

Gains in new loans made by reporting banks from June to July were proportionately greatest for loans direct to producers. Loans made to dealers and secured by chattels also increased significantly, but loans on open notes declined.

Repayment Stepped Up

The latest report of broiler production credit said repayments of bank loans were stepped up sufficiently in July to more than offset the increase in new loans. "Thus, a further slight decline occurred in the volume of bank credit outstanding for broiler production," the bank's research department commented. "This extends the decline in outstandings which has been occurring since March, 1960."

It was observed also in the report that "judging from rising collection ratios in recent months, feed manufacturers are reducing the time interval between extension and repayment of trade credit."

Supervisor Named

CLARKSBURG, W.VA.—Southern States Cooperative has named James G. Sanderson to the position of feed supervisor for region 6 with headquarters here. He came to the new post from the Chatham Cooperative Farmers Service, where he had been manager for two and one-half years.

Jacob S. Barnes will succeed Mr. Sanderson at the Chatham operation. Mr. Barnes has been manager of Southern States Danville, Va., Cooperative.

SALES GROUP

(Continued from page 4)

since 1953. His previous positions were territory manager, district sales manager and general sales manager. He was an agricultural teacher, sales representative for Lederle Laboratories and vice president for Uncle Johnny's Feed & Supply Co., Austin, Texas, before joining Burrus Feed Mills.

Paul Cory, sales manager of Moormann Manufacturing Co. since 1953, has been with the Quincy, Ill., firm for 19 years. All told, he has had 25 years experience in selling, sales training and sales management for Standard Oil Co. (of Indiana), Jewel Tea Co. and with Moorman. He started in Moorman's as a salesman and has held such positions as director of sales training, assistant western sales manager, regional sales manager and assistant general sales manager. His sales force is comprised of 2,350 people.

Mervin R. Eighmy has served as vice president and general manager of Gooch Milling Co., Lincoln, Neb., since 1937.

Earl P. Mitchell has served as sales manager of Alabama Flour Mills Red Hat feed division since 1957 when he joined the firm. Prior to this, he had served two years as general sales manager of the Cosby-Hodges Milling Co. and seven years with Kasco Mills as a territory representative, assistant to the general sales manager, assistant general sales manager and as general sales manager.

Dale Smith, manager of the feed department of Western Farmers Assn., started with the large west coast cooperative in 1927. He has held positions of branch accountant, office manager, branch manager, credit and personnel manager and his present title which also includes the selection and development of all supervisory personnel for the WFA operating branches.

Mr. Amdahl, general sales manager, Golden Sun Milling Co., started in the grocery business and then joined Golden Sun 18 years ago. He has served as a territory salesman, retail manager and advertising manager. At present, he is general sales manager, assistant general manager and advertising manager.

NITROFURANS

(Continued from page 1)

furazolidone (nf-180) in various uses in swine problems and in layer chickens and turkeys also was offered by the college and other scientists on the program.

Broiler Research

Research on nitrofurans in broiler chickens involved several new chemical compounds—nyhydrazone, nidroxyzone and furaltadone. Although not offered commercially, they show "considerable promise" as feed medications for prevention of coccidiosis, CRD-air sac complex, blackhead and for growth stimulation and improvement of feed conversion, scientists said.

Scientists from Georgia, Texas and Hess & Clark made these reports and comments on nyhydrazone research: If used as a coccidiostat, the drug should furnish blackhead protection during the first and second months of age when the bird has the least natural resistance. It was found to be effective as a coccidiostat under severe stress conditions in extensive field tests and in both severe and light disease stresses in laboratory tests; the drug performed effectively against five coccidia species. In other field tests, also, nihydrazone showed value as a coccidiostat for broilers, and it was said to result in greater response when fed at 81 or 100 grams per ton than recommended levels of several other coccidiostats.

Reports also were made indicating improved broiler performance from use of the other experimental nitrofurans.

Four papers—from Kentucky, Missouri, Iowa and South Dakota—supported the emergence of furazolidone as a major drug in swine. These papers indicated furazolidone: "Is effective in increasing feed conversion and rate of gain in growing pigs from 16 lb. to market weight; is beneficial as a prophylactic agent in the control of enteritis in swine due to Salmonella choleraesuis; protects pigs from scours when farrowed and suckled by sows fed furazolidone and, when included in both sow rations and pig starter, improves livability and weaning weight, and controls low-level baby pig diseases and improves rate of growth and feed conversion."

Laying Chickens

South Dakota and Arizona scientists reported favorable results with furazolidone when fed continuously in rations of laying chickens, with improvements in hot weather production, egg weights, shell-quality, mortality and feed efficiency, among the benefits indicated. Furazolidone in breeder rations resulted in improved egg production, fertility and hatchability of fertile eggs, in an Arkansas test. The chemical compound satisfactorily prevented avian vibrionic hepatitis in experimentally infected laying hens in a Massachusetts test.

Furazolidone also was reported effective when fed to turkey breeders with experimental infectious sinusitis. There was an increased number of poults in a series of hatches after inoculation, a Washington scientist reported.

Losses from blackhead in turkeys were consistently reduced compared with control birds with the use of two nitrofurans, furazolidone and NF-179 (an experimental nitrofuran), according to a Minnesota report.

Opening the two-day session, Frank N. Getman, chairman of Hess & Clark and vice president of Vick Chemical, invited participating scientists to present their data with the "greatest possible objectivity. . . . I hope that the precedent of free, uninhibited interchange set in the two preceding nitrofuran symposia will be continued."

Government Regulation

He added that "even our federal legislators and administrators have perhaps departed from this long-established scientific principle. The end result has been a realignment and slow-down of many research efforts in the field of agricultural chemicals because of government legislation and regulations that fail to consider practical observations and conclusions drawn from well-controlled research studies."

Mr. Getman stressed his agreement with the principle of taking "all necessary steps" to preserve and advance the health of people, but deplored regulatory measures "based on elusive, theoretical grounds bordering on fear hysteria rather than sound, scientific principles."

(Further details on the symposium and research reports will be presented in a subsequent issue.)

BEAN CROP

(Continued from page 1)

Aug. 1 crop report, except in the case of sorghums, where an estimate of 591 million bushels represents an increase of 10% since August. This may put a squeeze on wheat storage in western Kansas, eastern Colorado and Nebraska. However, USDA officials feel that they have elbow room and can put it all away. If necessary they will use on-the-ground storage loans until they can operate more freely in the area of permanent storage.

For the bean belt USDA reports estimates as follows: Ohio, 41 million; Indiana, 65; Illinois, 128; Minnesota, 40; Iowa, 66; Missouri, 56; Mississippi, 20, and Arkansas, 57.

ALLIED MILLS

(Continued from page 1)

engaged in feed manufacturing and soybean processing," Elmer W. Lenz, board chairman and president, pointed out in a letter to shareholders. "Your company was no exception, as is attested by the fact that earnings declined to $3.02 per share, compared with $3.71 per share last year. In comparison with industry reports and under existing conditions, we consider the results quite satisfactory."

Mr. Lenz noted that two primary factors influenced the decline in earnings—unsatisfactory returns from the soybean processing division and the cost-price squeeze under which producers of hogs, poultry and eggs operated during much of the year. He said profit margins on feeds were held to a minimum to assist producers to continue operations in the face of reduced net returns.

Feed tonnage, Mr. Lenz noted, held up "remarkably well" in the year just closed, running just slightly under the all-time high of the previous year. June tonnage this year was the largest on record for this month, and Mr. Lenz said the firm believes this tonnage curve will continue upward in the new fiscal year.

(Further details from the Allied Mills report will be presented next week.)

PRICES

(Continued from page 4)

Belt acreage in relation to corn as at present, Walter W. Goeppinger, president of the U.S. Feed Grains Council, told the American Soybean Assn. Mr. Goeppinger, who lives at Boone, Iowa, said he foresees expanding markets at home and abroad for both corn and soybeans "to help feed the hungry of the world.

"If we properly market our crops this will mean higher corn and soybean prices for the farmer."

Mr. Goeppinger said "the farmer likes to raise soybeans if possible. He knows that it is a crop that diversifies his risks and efforts.

"A farmer likes soybeans because the market is continually expanding for them and he has been able to get a fair price for them all through the years. He knows, too, that some years he receives a pleasant surprise with an unexpected run-up in soybean prices which corn seldom shares in."

Feed Grains Cut

The recent great expansion in soybean acreage in the U.S. has not been at the expense of wheat acreage but of oats and other feed grains, said John W. Evans, Montevideo, Minn., seedsman. He presented figures to show that the present acreage and value of the soybean crop are about half those of the wheat crop. A $1 billion crop of soybeans is grown annually from about 24 million acres, while the wheat crop from 55 million acres has a value of over $2 billion. But the soybean crop has doubled in size during the past 10 years, he said.

"I do not foresee any new area that we can turn to for any increased soybean acreage unless lower prices dominate wheat or feed grains," said Mr. Evans. "Increases may have to come from the present soybean producing areas and perhaps from some southern states. To anticipate producing a billion bushels (double the present crop) in the future must depend on more research for higher producing varieties, improved cultural practices and perhaps more response from fertilization.

Larger Exports

A longtime trend toward larger exports of U.S. soybeans and soybean oil to European countries is seen by Geo. M. Strayer, executive vice president of the American Soybean Assn. Mr. Strayer recently completed a trip to nine European and Middle East countries.

Mr. Strayer said European oilseed crushing plants will continue to shift toward the processing of soybeans, as tree nuts—which have been a main source of oils in the past—become more scarce and higher priced.

But the speaker said he saw little tendency to enlarge European crushing capacity because crushing margins are too low. He said European processors will be unable to meet the demands of expanding markets for vegetable oils. "Quantities of oil must be brought in from outside sources.

"Never forget that there are relatively plentiful supplies of carbohydrates in the form of cereal crops over much of the world. Proteins and fats and oils are in relative scarcity. In soybeans we have both in a form easily utilized by mankind, and which can be produced at relatively low prices," he stated.

SURVEY

(Continued from page 1)

tional Turkey Federation and Poultry and Egg National Board.

The complete report is as follows:

BROILERS—U.S. farm prices of broilers will average between 15 and 16¢ for the October-December quarter—about the same as a year earlier. The broiler price is expected to decrease each month to a low in December. Broiler marketings will be about 8 to 10% greater than for this period in 1959, but supplies of competing meats will be smaller.

Relatively profitable results for 1960 have been due to both higher prices and increased efficiency. Industry optimism is widespread, and increased supplies are expected during the first half of 1961. Efforts to increase output are evident in the strong demand for chicks and in increased egg settings. Also, the unusually severe weather in the southeast and the abnormally high condemnation rate which helped reduce early 1960 marketings may not be repeated.

Broiler prices in the first quarter of 1961 are expected to average between 16 and 17¢. Although such a price level would be about a cent under the 1960 January-March average, the industry can be expected to continue expanding. Therefore, April-June prices are likely to be below the 17.7¢ average for this period in 1960 and might go as much as 2¢ lower.

EGGS—U.S. farm egg prices during October-December 1960 will average about 38¢ a dozen, or around 6¢ above the comparable 1959 period. January-March 1961 prices probably will average 34¢, roughly 4¢ over the same 1960 months. In April-June 1961, prices will average approximately 31¢, about 2¢ below the corresponding 1960 period.

Hens and pullets of laying age on farms Jan. 1, 1961, will be about 5% below a year earlier. However, more new pullets will be coming into production in each of the first nine months in 1961 than was the case in the corresponding months of 1960.

Returns to egg producers in the laying year beginning in October 1960 will be slightly higher than in the 12 months previous, with most of the increase occurring this fall and winter. This situation will stimulate substantially increased purchase of chicks for flock replacements early in 1961.

If the U.S. hatch of egg-type chicks in January-May 1961 approaches or exceeds 10% above the same period in 1960, egg prices can be expected to be significantly lower in the laying year beginning Oct. 1, 1961.

TURKEYS—Turkey prices will increase about 1-2¢ over early September levels as the heavy marketing season progresses. However, no repeat of the sharp run-up in December prices which occurred last year is expected. The increase in available holiday turkey tonnage is less than earlier anticipated since many of the two-way heavy white breed turkeys apparently have already moved into consumption as turkey fryers. Current storage holdings are larger than last year, but when viewed in combination with expected marketings they are not considered burdensome.

Demand support for the present season is strong. The government again will be purchasing turkeys for school lunch distribution. Prices of competing pork and chickens are higher than last year. This is the second consecutive year of increased production and improved returns.

Substantial increases in production are expected for both light and heavy breed turkeys in 1961. Heavy breed hatchings during the summer months were up sharply. Light breed hatchings had increased to near year earlier levels. Early testings of breeder hens are well above the year earlier level. Growers desiring to expand will find credit available. Feed supplies during the coming year will be ample.

Under these conditions of industry optimism growers should make their production plans upon the assumption that prices during the major 1961 marketing season probably will be below the average received during the current 1960 season.

The poultry survey committee announced that its next meeting will be held Dec. 8-9, 1960. The group meets four times a year to forecast prices and production and consumption trends for poultry products.

Problem of Pesticide Residues Discussed

UNIVERSITY PARK, N.M. — The problem of contamination of alfalfa and other feed crops by drifting insecticides drew attention from a New Mexico State University entomologist in a recent statement providing background information in this field.

John J. Durkin, extension entomologist at the university, pointed out that dairymen are increasingly concerned over contamination of feed crops by drifting insecticides which are used to control pests in cotton and other crops. (Also, as previously noted, feed men in some areas are concerned with the problem of possible pesticide residues in ingredients, regulatory problems or questions involved, and demands by dairymen in some sections for feed company guarantees against the presence of pesticides in feeds.)

"It is the responsibility of farmers, no matter what they produce, and pesticide applicators, no matter where they spray or dust, to see that dairy cows and their feed and water do not become contaminated with pesticides that may eventually adulterate milk," the entomologist says. "It is also the responsibility of pesticide distributors, salesmen, and everyone who recommends the use of the agricultural chemicals to constantly remind farmers and applicators of their responsibility to the dairy industry and the milk-consuming public."

Background Information

Mr. Durkin points out that many of the most commonly used insecticides will produce residues in the milk if they are in the feed or water that cattle consume, or if they are applied directly on the cows, they will show up in the milk. Once a cow eats contaminated feed, her milk will contain residues for several weeks and even months, depending on the insecticides, the amount in the feed, and the length of time she is exposed to it. Aldrin, BHC, DDT, dieldrin, chlordane, lindane, and toxaphene are just a few of the commonly used insecticides that will produce residues in milk, Mr. Durkin said.

"Extremely small amounts of insecticides will contaminate feed and eventually milk," he continued. "Contamination is measured in parts per million not pounds or ounces or even milligrams. Techniques used to test for pesticides in milk will detect a quantity of less than .04 part per million of DDT and as low as .01 ppm. of many other insecticides. One ounce of DDT in one ton of alfalfa hay can result in 31 parts per million of DDT. When a cow eats hay with that concentration of DDT on it, she will produce milk with almost 2 ppm. of DDT in it the first day and over 4 ppm. three days later if she is allowed to continue feeding on the contaminated hay."

DDT is commonly used on many non-forage crops. Twenty-five pounds of 5% DDT dust is commonly applied per acre of cotton. Each pound contains 0.8 oz. of DDT. It is not inconceivable that 1 lb. of dust could drift onto an adjacent acre of alfalfa (an area 11 yards by 440 yards equals one acre) which may produce 1 ton of hay. That hay would contain 25 ppm. of DDT immediately after application and would still contain 5 or 6 ppm. a week later.

Mr. Durkin said insecticides that can be used near alfalfa and other forage crops are malathion, Dylox, parathion, Guthion, Phosdrin, methyl parathion, Diazinon, systox, TEPP, Dibrom, Sevin and methoxychlor. Insecticides which should not be used near forage crops, if there is any danger of drift are aldrin, Aramite, BHC, chlordane, DDT, dieldrin, Delnav, endrin, Ethion, heptachlor, Kelthane, Lindane, ovex, perthane, TDE (DDD), Tedion, Thiodan, toxaphene, and Trithion.

"What happens if a dairyman produces milk with DDT or any other chemical in it?" Mr. Durkin asked.

"The Public Health Department and the Food and Drug Administration will not allow milk to be marketed that is contaminated with pesticides or any other foreign matter," he stated. "Contaminated milk will be confiscated. Unlike other products that may contain excess residue, milk cannot be reconditioned or used to make any by-product if it contains pesticide residue. It could be fed to non-lactating animals and possibly to meat animals if the residues were DDT, toxaphene, lindane, or methoxychlor. If they contain dieldrin, chlordane, aldrin, or any other pesticide, it would be virtually worthless."

Integration Declines In Texas Areas

Feed companies' vertical integration is at a standstill in many parts of central and south Texas, a feed man in the area commented recently. "At one time several feed mills had their own broilers," he said, "but most of them abandoned this part of the business. And with broiler prices relatively low and other areas producing more and more birds, I don't think that there will be any further development in this area—at least not for some time."

The area mentioned was once a broiler area, it was noted, but the volume is dropping, and the greatest number of chickens are now grown in east Texas. Independent producers left have had trouble making a profit the last two years, and they continue to drop out.

"I think the time is over when a feed dealer can get in and out of integration and contract growing," the feed man said. "Most of those who are out of it will likely retain that status and not risk their money again."

Accepts USDA Post

PULLMAN, WASH.—W. R. Jenkins, Washington State University's extension poultry specialist, has resigned to accept a similar position with the U.S. Department of Agriculture in Washington.

C. A. Svinth, director of WSU's agricultural extension service, announced Mr. Jenkins' resignation.

Mr. Jenkins assumed his new duties as federal extension poultryman with headquarters in the nation's capital on Sept. 1.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
July 2	1,161	516	821	756	133	815	2,202	2,173
July 9	1,158	424	758	772	107	760	2,176	2,154
July 16	1,155	547	831	800	109	739	1,868	2,233
July 23	1,118	396	752	737	114	924	1,887	2,271
July 30	1,114	415	788	749	84	787	1,785	2,212
Aug. 6	1,132	497	796	773	99	718	1,657	2,109
Aug. 13	1,175	412	721	672	92	750	1,607	2,071
August 20	1,117	422	705	664	104	679	1,795	1,757
August 27	1,091	441	688	645	97	625	1,738	1,858
September 3	1,073	353	798	588	92	627	1,741	1,825

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
July 2	1,178	574	3,356	340	7,449	204	4,265	2,695
July 9	1,132	625	3,364	377	7,298	209	4,057	2,705
July 16	1,258	625	3,237	401	7,142	212	3,856	2,511
July 23	1,208	683	3,235	324	6,776	243	3,934	2,463
July 30	1,303	508	3,077	296	6,640	198	3,659	2,191
Aug. 6	1,123	678	3,095	333	6,231	199	3,518	2,183
Aug. 13	1,095	453	3,080	351	6,195	294	3,391	2,059
August 20	1,052	457	2,954	364	6,940	282	3,298	2,112
August 27	931	407	2,850	331	5,969	288	3,176	2,032
September 3	817	413	2,838	302	5,972	246	3,232	1,994

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1960	Total 22 areas 1959
July 2	4,200	556	2,331	349	270	1,105	37,449	34,340
July 9	4,064	449	2,217	326	301	1,098	36,531	33,667
July 16	4,046	443	2,179	366	258	1,018	35,834	33,881
July 23	3,801	411	2,113	354	234	920	34,898	32,455
July 30	3,642	433	2,126	309	228	947	33,491	32,044
Aug. 6	3,714	360	2,037	302	253	1,072	32,880	31,302
Aug. 13	3,508	343	1,876	276	218	1,054	31,693	31,136
August 20	3,478	383	1,912	318	228	906	30,928	30,402
August 27	3,321	351	1,760	327	180	964	30,070	29,236
September 3	3,104	356	1,703	298	191	961	29,523	27,913

ELEVATORS

(Continued from page 1)

group which bargains with Local 1286, could not be reached for comment.

The striking local set up picket lines at the dozen elevators where its members work.

Because four of the elevators are connected with flour mills, the Local 1286 picket lines also shut down those mills when the flour mill employees—represented by AFL-CIO Grain Millers' Local 35—refused to cross the lines.

The affected mills, which employ about 2,200, are operated by General Mills, Inc., the Pillsbury Co., Russell-Miller Milling Co. and International Milling Co.

Also halted was work by 250 grain scoopers who unload grain-laden vessels. As a result, five Great Lakes ships with grain cargo totaling more than 1 million bushels and a British ocean ship, the Atheltemplar, laden with more than 7,000 tons of molasses for Cooperative G.L.F. Exchange, were idle in the harbor. Other vessels, partially unloaded, also were idle.

The cause of the dispute stems indirectly from the week-long strike of the AFL-CIO Transport Workers Union against the Pennsylvania Railroad.

John Roberts, president and business representative of striking Local 1286, said the connecting terminal elevator, operated by the Buffalo Terminal Grain Corp., laid off its minimum crew of 13 workers Sept. 2 because "the railroad strike had made it unable to operate."

Local 1286 balked at the layoff, contending that a provision in its collective-bargaining agreement with the elevators guarantees steady employment as long as there is grain in the elevator.

Mr. Roberts said the connecting terminal elevator contains 1,200,000 bu.

He added that the employers' association contends that another provision in the bargaining agreement relieves the employer of the steady employment provision in case of breakdown, accident, fire, damage by the elements, or if it is impractical to operate an elevator because of a condition beyond the employers' control.

Mr. Roberts said the issue was discussed Sept. 6 and 7 at the bargaining table, but union bargainers reported "no progress" to the membership and the strike was set. Further talks from 9:30 p.m. Sept. 7 to 3:15 a.m. Sept. 8 failed to produce agreement.

Clarence M. Lamotte, federal mediator, was called into the peace talks late in the day on Sept. 7.

The only elevator on the waterfront operating Sept. 8 was Cooperative G.L.F. Exchange's elevator on Ganson St. Mr. Roberts said Local 1286 "has no controversy with G.L.F."

About 80 grain elevator workers have been idle since the Pennsy strike began. They are employees of the Superior Marine and Dellwood elevators who have refused to cross the Transport Workers Union's picket lines.

The latest strike has added further woes to Buffalo's feed industry, already hampered by shipping difficulties and increased costs as a result of the Pennsy strike.

Millfeeds have become unobtainable here. There are some meaningless nominal prices, but the industry will have to turn to the Midwest and Southwest for its supplies, where higher prices are already in effect.

There is no ex-lake grain available, but sufficient supplies can be brought in from western points, one spokesman said.

Opinions were mixed on the outlook of the grain-elevator strike. One spokesman for a large mill said he thought it would be of short duration, but others thought it might last for some time. Another said it is a matter of contract interpretation, and would probably have to be settled by federal mediation.

CALF CROP

(Continued from page 6)

ness, his replacement cattle prices must drop more than slaughter cattle prices. It is hard to make any great saving in costs of gains, so most of the decline in value per head of fat cattle should be offset by an equal decline in cost per head of feeder cattle.

The seasonal price pattern for high-grade cattle has changed for the past three years. The highest prices have come in the late winter or early spring instead of from August through November, as was formerly common. The changed seasonal pattern favors continuous year-round feeding.

Feed costs will remain about the same in the year ahead. No tight corn supply situation is likely because of the large government holdings. Price prospects for protein feeds are also about the same.

The longer outlook for beef cattle is favorable. Beef is America's favorite food, and there are no surplus stocks. There will be an ever-increasing market, but competition among producers will be strong, Mr. Simerl concluded.

CORPORATION

(Continued from page 6)

ville, Ark., has a two-shift capacity of 350,000 broilers weekly. Majority of the broilers processed through the plant come from AVI's contract growers.

Standard Contract Used

AVI uses a fairly standard contract with its integrators, according to reports. The growers buy chicks, feeds and other supplies from the corporation's subsidiaries. Then the processing plant buys the birds at market price. If the net received for the broilers is too low to show a profit, the firm provides compensatory payments at pre-arranged rates.

Like many similar firms, since 1956 Arkansas Valley Industries showed appreciable losses on its broiler production contracts with growers. However, the profits from other enterprises more than overcame the losses on broiler production in every year but 1959.

Showed Loss in 1959

When broiler prices dipped in the fiscal year 1959, the loss on AVI's growers' contracts was a reported $1,068,000. This was more than 8% of sales—too large a loss to be overcome by profits from other enterprises. As a result, the firm showed a net loss on operations.

But the financial picture was much brighter in the past fiscal year, AVI reports.

Even though AVI had a substantial broiler-growing loss, profits from other enterprises enabled the corporation to report net earnings of more than $174,000—about $1.80 for each share of stock outstanding.

GALVIN

(Continued from page 7)

prospects in Minnesota and South Dakota but this was largely offset by modest improvement in the central states."

His state-by-state estimates on corn for those producing more than 50 million bushels, with comparisons, appear in Table 1.

Other than his general statement that per-acre yields of oats were "large," Mr. Galvin's comment on the prospects for this cereal were rather sparing. Based on much of the information available at and after planting time, very few in the trade were so optimistic as to expect a 1¼ billion-bushel crop of this cereal.

Table 2 tabulation of oat production estimates, covers the 13 states in which annual oat production is in excess of 25 million bushels.

Soybean Comments

Commenting on the growing soybean crop, Mr. Galvin said, in part: "The over-all moisture situation is generally favorable as the result of recent precipitation and crop progress is good. Condition of the latter is 85% of normal compared with 84% a month ago and the 10-year average of 85%."

Table 3 (soybean production estimate) takes in all states with a current annual production of 5 million bushels or more.

Kansas City Club's Outing Sept. 20

KANSAS CITY—The final golf outing of the year for the Kansas City Feed Club will be Sept. 20 at Oakwood Country Club.

Golfers may tee off any time after noon. The cocktail hour, with the special Oakwood hors d'oeuvres, will start at 6 p.m. Dinner is scheduled for 7:30.

Prizes will be awarded to both golfers and non-golfers.

Price Break Helps Outlook for Hogs

URBANA, ILL.—"The hog market broke a little earlier and more sharply than we had expected," says L. H. Simerl, agricultural economist at the University of Illinois, in a recent outlook letter, "but this is not all bad. It may prevent an excessive increase in the 1961 spring pig crop."

Market supplies of hogs were a little larger during the summer than were indicated by sow farrowings last winter. Then, too, farmers have been putting 7 to 8 lb. more on their hogs than they did a year ago.

Estimated weekly production of pork under federal inspection has been running surprisingly close to the high levels of 1959," reports Mr. Simerl. "Output in the first week of August was down only 10% from the week before. The second week was down only 3%, and the third week, 1%."

A much larger cut was expected, since the number of pigs saved last winter (December-February) was officially estimated to be 19% short of year-before figures.

Now that prices have tumbled, they should be on a fairly firm basis for the remainder of the fall. The fall low seems likely to be reached in November, predicts Mr. Simerl.

"The early price decline may cause some farmers to reconsider their plans for 1961 spring farrowings. In a survey last June, farmers said that they planned to begin increasing farrowings in the September-November quarter. The planned increase was 2%.

"High prices for hogs this fall would have encouraged a larger increase in winter and spring farrowings."

The total 1960 spring pig crop may have been underestimated. The official report showed it to be 16% less than that of 1959.

"If we accept the estimate as being essentially correct, we could take a substantial increase in spring farrowings in 1961 without producing excessive supplies."

After cutting production 16%, farmers must increase nearly 20% in order to get back even with where they were before the cut. And they would need to increase more than 3% to match population growth in the two years. A total increase of 23% would be required to bring the pork supply per person back in line with where it was in 1959. Such big increases have been very rare.

"Even if farmers cut hog production less than 16% last spring, it would take an unusually large increase in 1961 spring farrowings to bring production back up to excessive levels," says Mr. Simerl. "It still pays to have spring pigs early. Or perhaps we should say that winter pigs pay better than spring pigs. Even in years of peak production, hogs sold before October have made fairly good profits.

"In years when hog production has reached its peak, the big breaks in prices have come in October, November and December."

Plan Export Elevator

NEW ORLEANS, LA.—Walter C. Klein, president of Bunge Corp., announced from New York that a $5 million export grain elevator will be built near New Orleans.

In his announcement, Mr. Klein said construction on a 20-acre site on the Mississippi River near Destrehan, 10 miles above New Orleans, would be undertaken immediately. Completion date is set for August, 1961.

Initial concrete storage capacity will be 2 million bushels. There will be facilities for receiving grain by rail, barge and truck, and loading facilities will accommodate 40,000-ton tankers.

MARKETS

(Continued from page 2)

prices, f.o.b. the farm, 15½@16¢ lb.

Cattle and hog feed business continues to be on the slow side. Recent rains have greatly improved pasture conditions. Many cattlemen do not anticipate much of a feeding program until the last of this month or until early October.

The major feed ingredient buyers were in the market for the last two weeks buying soybean meal to replenish inventories. This resulted in prices advancing as much as $7 ton.

Southeastern cottonseed oil mills are just commencing their crushing operations, and sales already made are taking care of production. Therefore, there is no pressure on the market and mills are not willing to offer their products at dealer ideas at this time.

New crop corn is just beginning to be harvested, and prices range from $1.24 to $1.35 depending on locations.

Citrus pulp movements continue good, and most processors feel that their inventories will be shipped out by the first of October. Prices remain firm at $47.50@50, f.o.b. Florida processing plants, with no new offerings.

South Central

After having shut down over the Labor Day holiday, feed manufacturers have had no difficulty in gathering together enough orders to keep their plants operating for the remaining four days of the week. But demand is considered dull and no immediate change in the picture is anticipated until late in the month. At that time, industry spokesmen feel, farmers will have a little money in their hands from the fall feed grain harvest and will be in the mood to step up feeding operations. At the moment, numerous feeders and dealers are reported to be pinched for credit and forced to use caution in buying.

Grass conditions have deteriorated because of hot dry weather but, so far, no increase of cattle or dairy feed business has resulted. Some is expected, however. In general, mills are depending mostly on their hog feeds to carry the bulk of their operations.

Ohio Valley

As was to be expected during this holiday and school opening week, all Ohio Valley stockyard and wholesale poultry markets were only moderately active, with prices fluctuating only slightly.

Because of the Pennsylvania Railroad strike, feed retailers in some valley areas were experiencing a considerable upswing in sales volume as farmers sought to guard against possible shortages of feeds in case the strike continues indefinitely. This emergency situation, however, was by no means widespread.

With temperatures continuing in the mid-90's throughout the last week, growing conditions have been ideal for corn and other fall crops. Although the need for more rainfall has been reported in some valley areas, this situation is neither widespread nor serious at this time.

Pacific Northwest

Formula feed business continued at a fairly good pace this week. Poultry rations were still rated as the best movers throughout Oregon, Washington and Idaho. Further cool, cloudy and rainy periods helped the region's range and pasture conditions, but the feeding of grains and concentrates was maintained at a fairly high seasonal rate.

Terminal feed manufacturers were reportedly operating five to six days a week.

Feed ingredient quotes averaged slightly lower during the week. Trading turned to the slow side and featured a lagging demand for adequate to plentiful supplies of most offerings.

Price cuts were posted by wheat millfeeds, meat and bone meal and soybean meal while whole oat prices made substantial gains. Other feed grains sold at steady to firm levels.

Mountain States

Dealers report feed business to be generally a little stronger than the last couple of weeks. Demand and supply is just about the same as this time last year.

A strong pick-up in cattle feeding is anticipated due to the long hot weather spell. Grasslands around the state are drying up. Other feeding is normal for this time of the season.

JOINS TEXAS FIRM

WEISER, IDAHO—Leland Billstone, Ranchway Feed Division manager for the Weiser Flour Mill here, has accepted a similar position at El Paso, Texas. He will join H. W. Wilson & Co. He has been Ranchway manager for the past three years, and no successor has yet been named.

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Fisher Mills Names General Manager

SEATTLE—Kenneth R. Fisher has been elected vice president and general manager of the Fisher Flouring Mills Co., Seattle, according to an announcement from John L. Locke, president.

Mr. Fisher has been with the flour and feed milling firm since 1930, beginning as a clerk and then working as a salesman in the Seattle and Portland territories. In 1937, he was appointed advertising manager of Fisher's packaged products department and later was named sales manager of the division. He was appointed treasurer of the company in 1946 and assistant general manager six years later. Mr. Fisher will continue to hold the post of treasurer, in addition to his new duties of general manager.

Mr. Locke also announced the appointment of Victor J. Evans as chief chemist to succeed Arthur J. King, who died in July.

New Feedlot Program

REDMOND, ORE.—A new "rationalized" feedlot program has been announced by the new manager of the Redmond Packing Co. here. Under the program, the cattleman can assign his feeder cattle to the Redmond plant and "forget about them until the profits come in," according to David Gage, who was appointed manager July 1.

Mr. Gage said his plant can now handle both feeding and marketing of cattle. He said a cattleman could send his cattle to the Redmond plant and order them sold after a certain amount of gain. Mr. Gage explained that the program would depend on the differential between feeder cattle and fat cattle being more than the cost of putting gain on the animals.

New corrals and feeder troughs now permit the plant to handle 18,000 cattle per year in three groups of 6,000 compared with the 2,000 now being fed. Mr. Gage said that Redmond hopes to develop markets in Hawaii to supplement its Oregon outlets.

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